

The National Locksmith®

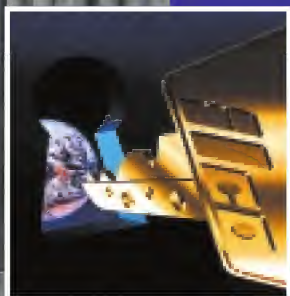
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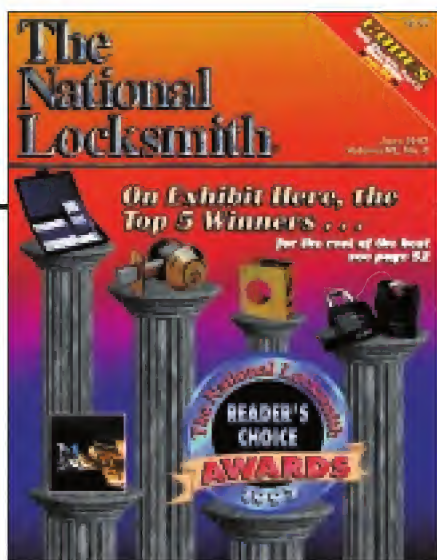
June 1997
Volume 68, No. 6

***On Exhibit Here, the
Top 5 Winners . . .***

***for the rest of the best
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On The Cover...



Presenting the third annual Reader's Choice Awards and the products you feel deserve recognition. Seventeen different product categories ranging from Access Control to Tool manufacturers have been acknowledged with this most prestigious award designation.

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COMMENTARY



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A new name for a venerable group

I just returned from Atlanta where I attended the annual meeting of the organization formerly known as the National Locksmith Suppliers Association, or NLSA for short. In Atlanta, the group formally voted to change its name to the Security Hardware Distributors Association, or SHDA. The association membership is comprised of wholesalers serving the locksmith industry, and its associate members are manufacturers.

The notable change in the name is that the word "locksmith" no longer appears. Personally, I have mixed feelings about the change. On the one hand, I believe "locksmith" is an honorable profession, and one in which we can take considerable pride. On the other hand, many consumers today relate more to the word "security" than to the title "locksmith."

Therefore, I see the purpose behind the name change, and I believe that the focus of the group has not changed so much as they are attempting to focus more directly on the market. In fact, a great deal of discussion at the meeting centered on ways in which distributors can continue to add value to the products they distribute to you, and ways in which SHDA members can help locksmiths to increase marketing savvy as well as familiarity with new technologies.

Also heartening was the presence of ALOA staff (as well as all the trade magazines) at the SHDA meeting. I believe that by including all layers of our industry, we have the best minds at work planning strategies for the long term benefit of our industry.

A member of our E-Mail list, Joseph Stofferahn, sent me a copy of a fable which I would like to paraphrase here, mostly because I like the moral to the story.

Once upon a time there was a large factory that made widgets. In this factory, which employed a large number of people, there was one particular

machine that stood in proud splendor in the middle of the factory. "Big Bertha," as everybody called it, was the most important of the machines because it made the most important part of the widget, which was the chassis.

One day, Big Bertha ground to a halt. For days the plant mechanics worked to get it to operate but to no avail. The owner of the plant was in a panic. Orders were piling up, customers were angry, and his employees were idle. He called all over the country and finally found a retired widget machine technician who lived 100 miles away.

After a lot of begging, the old man agreed to come look at Big Bertha. When he arrived, a hush fell over the plant. The old man stared, deep in thought for 20 minutes, then climbed up the side of the machine, and pulled out a small brass hammer. Reaching out, he gave the machine two strong taps with the hammer. Big Bertha roared to life. Everyone cheered and the boss told the man to send him a bill.

When a bill for \$200 came, the boss was outraged and he wrote, asking for an itemized bill, thinking the old man couldn't provide one.

A week later, the following bill came in the mail.

"Hammer taps, Quantity of two at \$10 each. Knowing where to tap, \$180."

Marc Goldberg



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Marc Goldberg
Publisher

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Mango's Message

In the Line of Fire

There's not a day that goes by where the news of another fatal shooting is not covered in the local newspaper, or featured on the evening news. This atrocious occurrence has become so common, that most of us pay little attention to it anymore.

The reason for this phenomenal outburst of deadly violence is anyone's guess. Some attribute it to the breakdown in the family structure and values. Some say a lack of education and opportunity is the cause. Others say as violence has increased on television and in movies, so can the increase of violent aggression be traced in society. Whatever the reason, the fact of the matter remains; we are living in a volatile, gun toting, trigger finger society. The more contact you have with the general population, the greater your risk of encountering an unfriendly and potentially life threatening situation is.

Recently, I was reading a story in the local newspaper about two teenagers that killed a pizza delivery man just for kicks. The 17 and 18-year-old boys with nothing better to do on a Saturday night than murder someone, randomly called pizza parlors until one agreed to deliver a pizza to a remote, rural house. The house was actually abandoned, where the two boys waited for their unknown victim.

When the pizza delivery person arrived at the house, he was ambushed. A spray of bullets penetrated his vehicle killing him. He was then dragged out of the car, placed face down on the ground and shot in the head. The perpetrators of this crime were apprehended, and according to law-enforcement officials, there seemed to be no apparent motive for the murder, other than these boys wanted to know what it would be like to kill somebody!

This is a particularly chilling story because it involves an innocent unsuspecting individual who was intentionally lured into a trap, and then senselessly murdered so two degenerates could get their kicks.

This reminds me of the time I received a service call and ultimately found myself looking down the barrel of a hand gun. The pre-meditation of the call was not as sinister as the previous one, but as the event unfolded, it did prove to be just as life threatening.

It was about 6:30 in the morning when the phone started ringing. In my usual delightful manner, I answered, "YEAH, what do you want?"

"I took my husband to work this morning and he accidentally took the apartment keys with him, now I'm locked out! Can you help?" a gentle voice replied.

I was soon headed to my service vehicle in my usual early morning stagger, with an address in one hand and my Barney lunch bucket in the other.

There, perched on the apartment stairs awaiting my arrival, was a rather voluptuous, sultry looking long-haired blond. She was wearing a shamelessly revealing low cut flower patterned sun dress which accentuated her long, sun drenched, silky smooth, golden brown legs — not that I noticed.

Stumbling up the stairs following her lead to the second floor apartment — must have been the new shoes — I quickly identified the culprit as a Kwikset lock. I paused for a moment, ran my fingers through my jet black shoulder length hair, slipped the pick set from my back pocket and

*Continued on
page 8.*

Greg Mango

**Greg Mango
Editor**



Mango's Message

Continued from page 6

proceeded to open the lock. Before you could say: *Supercalifragilisticexpialidocious...* the lock was open.

There was no doubt that I had mesmerized her with my awesome abilities. Either that or she had fallen asleep!

I single-handedly nudged open the door as our eyes momentarily met. There was one minor problem, however. The door only opened a few inches and then came to a stop. There appeared to be some sort of locking chain about eye level that was preventing the door from fully opening. Well, I'll be a monkey's uncle! How do you figure that got there?

Suddenly the focus of my attention shifted from this damsel in distress, to the fact that I was an unwanted guest that had just been suckered into crashing a party.

In one flowing movement that was smoother than a ballerina, my conniving customer (it's amazing how we turn when we've been jilted) reached into her pocket, pulled out a set of keys, and snapped open the locking chain on the door faster than a Cheetah. She then charged into the apartment and slammed the door behind her. Now, I don't like to brag, but I must admit, I do have a way with women.

As I stood there staring at a door knocker, asking myself, exactly where did I go wrong here? ...the door slowly opened. Yeah, I thought to myself, I knew she couldn't stay gone for long! As the door opened, a shadow cast over me like an eclipse. I found myself staring at a gorilla of a guy that looked like he had been pumping iron since he was in his mother's womb. He was huge.

I was going to excuse myself so I could get the step ladder from my truck so we could talk man to man and eye to eye, but I believe he would have failed to see the humor. Glaring at me with blood shot eyes, pectorals pumping, and his fist clenching a peashooter commonly referred to as a 38 police special, I found myself in a rather unsettling predicament. I skipped the introduction and handshake.

Spewing his venom at me as fire streamed from his nostrils, I held my ground, staring right back at him, not cracking a single bead of sweat. What was going on in my intestinal track is another story.

All the while this was going on, I kept a watchful eye on his trigger finger, as well as the vein popping from his temple region.

Between the expletives, hand

gestures and insinuations, the gist of the story was; the blond bombshell that called me wasn't his wife after all. She was a girlfriend that he had recently evicted. At the time of our arrival, he was, shall we say, "entertaining" another young lady. Apparently we came at a bad time.

While I was being read the riot act, a muffled "POP" rang out from within the apartment. Shortly thereafter, the vixen appeared at the door with a vein throbbing from her forehead and a gun clenched in her hand as well. Before you knew it, Tarzan and Jane were toe to toe, gun barrel to gun barrel, fighting it out. The dispute led back into the apartment, with the door being slammed shut once again.

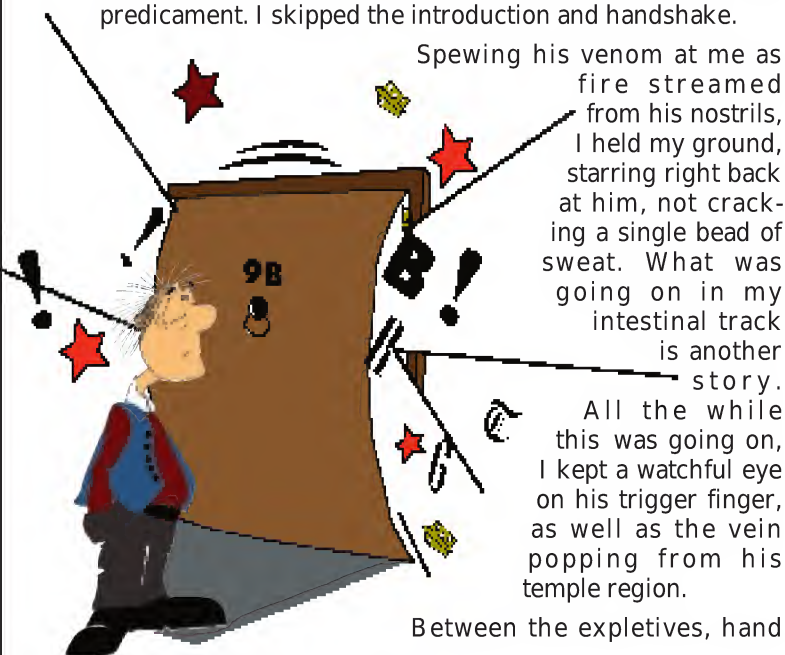
While this was going on, any intelligent, sensible individual would have slithered down the stairs and high-tailed it out of there. But, then again, I've never been accused of being intelligent, let alone sensible. All I knew is, I was dragged out of bed at 6:30 in the morning and I hadn't been paid for services rendered.

After waiting on the porch for about ten minutes — no joke — periodically pressing my ear against the door checking for signs of life, my blond headed fair feathered friend, opened the door and literally threw a \$100.00 bill out. I watched in amazement as it slowly floated to the ground. I was going to knock on the door to see if she wanted her change, but I figured I'd leave these two love birds alone. I picked it up, ran my fingers through my jet black shoulder length hair, and went on my way. Squish, Squish, Squish, Squish.

Personal protection and precautionary safety measures is a very real thing when dealing with the public. Family disputes, foreclosures and evictions, can be extremely volatile situations. The most dangerous of all, however, are those unsuspecting situations that suddenly take a turn for the worse.

Always be cautious, utilizing every precautionary means possible when providing service for a customer, whether during the day or at night. Screen customers when they call as thoroughly as possible. Attain as much information as you can, and always leave a paper trail before heading off into the darkness. It's best to let someone know where you will be.

When those two teenage boys killed the pizza delivery person just for grins and giggles, they had previously called four other pizza parlors in their pre-meditated search for a victim. The other stores had caller ID, and the manager of one said the caller had trouble answering routine questions about his address and phone number. The manager had a gut feeling something was wrong, and told his employee not to make the delivery. His skepticism and precautionary measures worked, and I'm sure his employee will forever be grateful. **TNL**



J U N E 1 9 9 7

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

What Does It Take?

I have been subscribing to, and have enjoyed reading your magazine for a few months now, especially the letters department. I would like to say a few things in answer to "Will We Prevail?" while also touching on a subject mentioned in "Why Be Cheap?" in your February '97 issue.

I am 27 years old, and I work very hard in food service, and have been since I was 18. Three years ago, I took the locksmith correspondence course from Foley-Belsaw. My desire to leave my current dead-end career field, is only surpassed by my desire to become a full-time locksmith. The work fascinates me, and I like the idea of being my own boss.

Realizing that I need more practical experience in the industry, I had contacted all five of our small town locksmiths. Some were friendly, but did not need any help due to the small size of their businesses. The largest locksmith in town, however, has all the others dwarfed in comparison. When I

contacted the owner of this business, I explained my situation. He responded to my requests with rudeness, and degraded my education (on locksmithing) with a belligerent attitude.

He had me so riled up, I went and got my business license here in town and did small jobs for next to nothing. It was the only way I could become more involved with this line of work, given my conditions. Plus, every time I could take a job away from "That other guy," I felt even better about what I was doing.

I only do this part time, but stood behind every job I did, and still do. I don't have enough tools to advertise publicly for every job, so work is limited. The extra money I earn from my current job, I invest in more equipment. I would still like to become fully involved in this industry, but what else can I do? Are many locksmiths out there willing to take on an apprentice that is not a member of their own family?

Aren't any willing to teach someone interested in this line of work, even for minimal wages? It seems to me that the ones in my local area are afraid of that, once they pass on enough knowledge to others, it will be used against them. They have lost sight of the fact that the quality of their work will keep or lose their clientele, not new competitors. I'm sure this cannot be the case everywhere else, but it is a sad situation that I am sure has occurred to other aspiring locksmiths. Any suggestions or solutions are welcome.

*C.H. Martin
South Carolina*



In Touch A Continent Away

I just want to say I am so proud to be in your e-mail list. I live far from your country, and everyday the first thing I look for is your e-mail. Sometimes it is hard for me to clearly explain my ideas in your language, but again I want to thank all of you for the great help you give me every time I ask for it. Thanks.

*Jose Mauricio Rivera
El Salvador, Central America*

The Craftsmanship Of A Locksmith

Every once and awhile amidst the modern Kwiksets and Schlages that cross my workbench, a truly fine antique finds its way to me. Just by looking at it you can see the maker in it. Each piece is hand machined or filed to fit, and the surface rubbed smooth or jeweled by a method that would not be used today.

I save these locks for when I am alone and undisturbed, picking one of my best brass post key blanks (the ones I hate to part with) and

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Attn: Editor

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carefully file it to fit the case. Once fitted, I disassemble the unit and admire the detail workmanship of parts that no one will ever see. I feel a connection with the long past craftsman who had the time and skill to put into such a common object.

Tomorrow I may install access control or design a complex Master key system for high security cylinders. I may sell a couple of push button safes or cut in a simple deadbolt, but today as others for generations before me, I am a locksmith.

*Roger S. Wechter
Connecticut*

Do You Have What It Takes?

I was talking with my Amsec representative recently and he made me realize how important we are to many manufacturers.

Not all manufacturers look to the home centers and contract builders to wholesale their products. The untrained personnel in this medium, are unable to explain the difference between a fire box and a fire or burglar rated safe.

Our knowledge is the reason we can sell safes, high security locks, key control, access control, telephone entry systems, and quality door hardware. We've spent years learning the products inside and out. We see first-hand the damage when products fail and pass that information back to the manufacturer. We have the knowledge our customers need and we will be there when problems arise with the products they buy from us.

As the business climate changes, we see small companies gobbled up by the larger companies. These are companies who ignore our value and only see \$\$\$\$ signs. They will cut corners and cheapen products to increase profits, while making products easier for the untrained personnel to sell.

Manufacturers who make quality products need us. They already know we are excellent technicians. They need our help to get their products to the consumers. We can be the most knowledgeable sales force a manufacturer could hope for.

These manufacturers are relying on us for their growth and survival. Are we up to the job? Can we open our eyes to see the whole picture and strengthen our role in the security industry?

Manufacturers are watching us and hoping that we can. They need us to learn sales and business skills in addition to our great technical skills. Many of them are willing to help us, because helping us will help them.

Will we help? Will we use their knowledge to grow our business? Will we take advantage of a booming security industry to become good business men and women? Will we? They're waiting for our answer!

*Kathy Zaniolo, CPL
Illinois*

For Child Safety Only

I read the excellent insightful article by Mr. Gerald A. Landrum, detailing a clever and innovative gun-lock produced by the SAF T LOK Company.

It was a pleasure to hear from an individual with Mr. Landrum's experience, offering the community another unique commercial opportunity. I found his article in the February, 1997 issue to be very interesting. Any device that can potentially save a life is worth investigating.

I have one caveat for locksmiths who might consider installing this device on a firearm. If it is used to safeguard a firearm from children, I think it is great. However, if this device is to be considered to secure a firearm that may be used in a protective function (robberies, assaults) I would think twice. In close quarter battle (fire-fight) or where you may have need in an emergency to shoot this firearm (robbery attempt) an individual's fine motor skills can be impaired unless specially trained (CRW, SWAT, etc.).

I can sight many examples of trained individuals who have desperately tried to pull the trigger on their firearm, not realizing the safety was still on. I have seen trained officers in a 'fire-fight' that have emptied their ammunition magazine and keep pulling the trigger on an empty round, while they run with a full magazine in their other hand! Adrenaline is a very powerful hormone, and practice targets usually don't shoot back.

Professionals consider all firearms 'loaded' and treat them as such. The potential litigation and liability for the installer of a SAF T LOK, I would not want to consider, should an

individual be unable to operate the firearm in a robbery.

For the intended purpose of child-proofing a firearm, my hat is off to SAF T LOK. However, what would happen in a mom & pop business should a life threatening situation occur? Would they have the composure to unlock the SAF T LOCK in a startling situation?

Keep up the excellent work, you have an excellent magazine.

*Nicholas S. Tyler
Canada*

Does Facial Hair Impair?

Over the last five months, I have been following the classified ads in your magazine. As an inevitable move is rapidly approaching, I have been looking for employment opportunities. All the ads that I feel I am qualified for have extra stipulations, such as:

"Applicant must be clean and neat in appearance"

"Applicant must be well groomed"

"Applicant must be clean shaven"

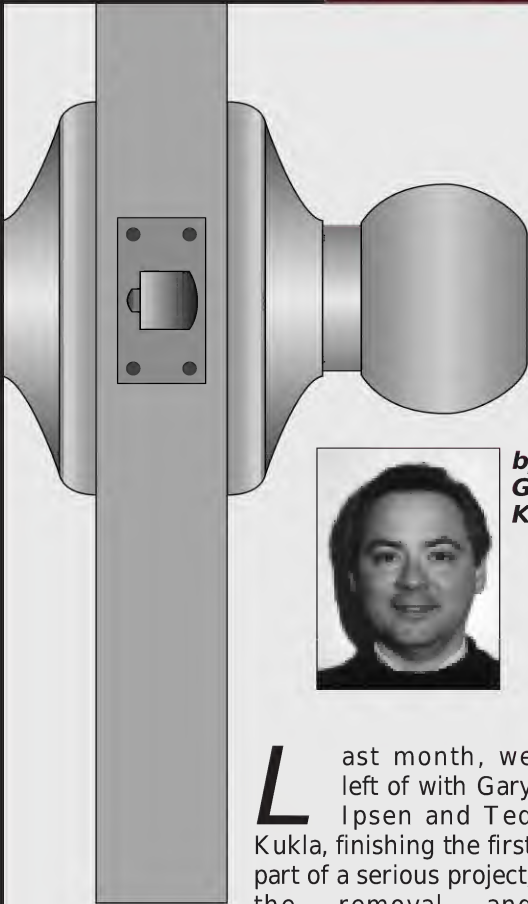
I find these requests rather interesting, because as I thumb through the magazine, I notice that Mr. Libby, Mr. McOmie, Mr. Dulcamaro and Mr. Reed, all wear beards! My hat goes off to these fine gentlemen.

I see this in every walk of life. You want a job? You must be without facial hair! My message to all those stereotypical requirements is: just because I wear a beard does not make me any less professional.

What prompted me to write this is less than an hour ago, I was in a neighboring town and just happened to be in a mall parking lot watching a man frantically attempting to gain access into his vehicle. Kid's were playing in the car while he was inside a store and locked the door. The hair on my face did not in the least bit hinder, impair, or prevent me from opening the door. By the way, this was the same man who the day before told me I was not what his company wanted to serve as a representative. It's a good thing that those of us with beards do not treat our fellow man the way they treat us.

*William Weiss
Georgia*





Opening New Doors part 2



by
**Giles
Kalvelage**

Last month, we left off with Gary Ipsen and Ted Kukla, finishing the first part of a serious project, the removal and replacement of a steel door and frame at *The National Locksmith*. The tough part of the project so far was to remove the door frame from the brick and mortar wall - without destroying the wall. The mission was pretty straight forward. Find the existing anchors and destroy them without

breaking the brick. A physically tough job, but relatively straight forward.

This month we will cover the installation of the new frame and door. While this is still a physically demanding job, the real challenge is the mental development and planning of the tasks at hand. Each step of the installation will build a foundation for the next step. An error in calculation, measurement or design, may prevent the proper operation of the new door.

Once the old door and frame is removed, the opening will be cut, cleaned, and as plumb as

possible. In *Photograph 1*, the wall is being prepared to accept the new door frame. The top, sides, and floor will be ground for as much smoothness and plumbness as possible.

Photograph 2, shows a level being placed over the floor and the parking lot. There is a slight rise on the parking lot surface which is a concern as it could interfere with the proper swing of the door. At this point, Ted and Gary are contemplating an approach to correct this problem should it occur.

After grinding and cleaning, the frame is set into the opening (see *Photograph 3*). There is a slight binding in several areas across the sides of the frame, so again, the grinder comes out and adjustments are made to the opening.



2. Comparing the grade of the parking lot surface with the inside floor.



1. The frame is widened and plumb as possible to accept the new frame.



3. The frame is a perfect fit this time.

Once the frame fits into the opening smoothly, the frame will be set into place and checked with a level for plumb on both sides and at the top (see *Photograph 4*). Magnetic levels are used which make it convenient to

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4. Checking for level on the top.

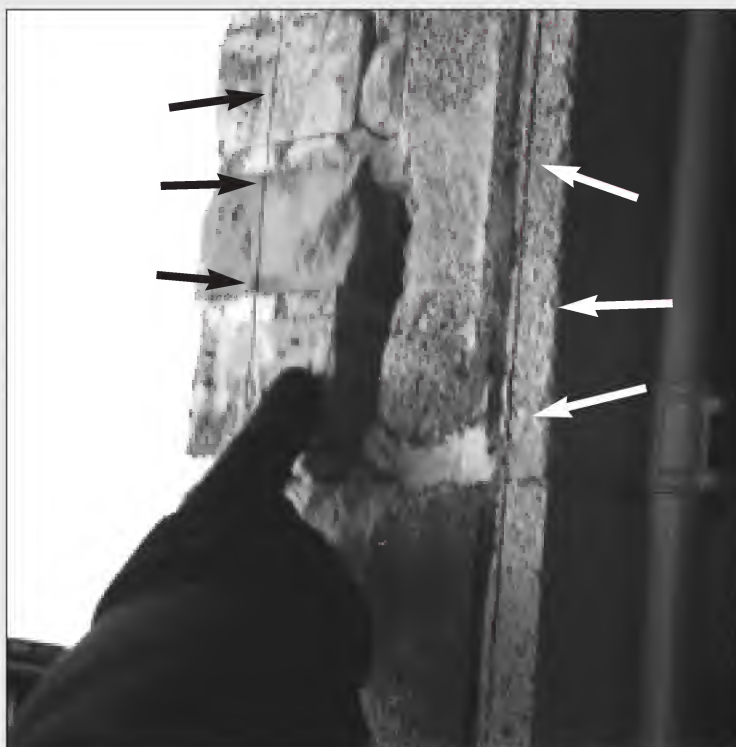
frame removed and the markings where the frame will fit.

After inspecting the construction of the wall in relationship to where the frame will be anchored, Ted is contemplating how the frame is to be anchored. It's obvious that the frame cannot be anchored in the center because the wall has virtually nothing to hold the anchors.

accept the anchors, the frame needs to be modified correctly, or it's possible the frame will be spending its lifetime in a landfill instead of on a wall.

Most of the frame is thick sheet metal. This portion of the frame is easily drilled and modified. Welded in place on the inside of the frame are steel supports for the hinges, door closer and strike cup (see Photograph 7). There are however, no pre-determined mounting holes for the frame mounting anchors. This is left for the field technicians to engineer and apply.

Mounting anchors are similar to



5. The wall is marked to show where the frame will seat. The construction of the wall shows outside brick, center mortar, inside cinder block, and inside wall finish cinder block.

level and plumb steel frames. This allows the technicians to keep both hands free.

Checking for plumb on the inside, outside, and center of the frame will be performed virtually every time the frame is moved, shifted or adjusted until the frame is completely anchored. Once the frame is set into the opening and everything appears plumb and level, the outline of the frame is marked on the wall and header, the frame is then removed from the opening.

Photograph 5, shows the "to be" hinge side of the opening with the

attempt to determine the strongest anchor points (see Photograph 6). In many instances, there is good support right in the center of the wall to anchor the frame. Three anchors on each side is usually adequate when the wall is solid, but that's not the case here. Field engineering now comes into play.

Remember the earlier comment about the step currently being worked is the foundation of later steps? This is the big one! A determination on where to mount the anchors to the wall needs to be made. Knowing that the frame will need to be modified to



6. Test holes are drilled to determine the strength of the materials for mounting.

Test holes are drilled in the brick and cinder block in an

those found when mounting safes to concrete floors (see Photograph 8). Holes for the anchors will be drilled into the frame, and dimpled (countersunk), but first, it must be determined where the mounting holes for the anchor will be placed.

The frame is removed from the opening and both sides of the wall are examined - with forethought to strength of the brick, mortar, cinder block, hinge and latch mountings, and placement of the auxiliary hardware which was on the old door and must be replaced on the new door.

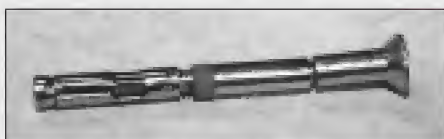
The frame was mounted to the brick on the outside wall. At the top, one anchor would mount through the hinge support. Knowing that the

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7. Hinge support brackets, there's three of them on this frame.



8. These anchors hold the frame to the wall.



9. Precise measurements are critical.

countersink tool would not work because of the heavy steel reinforcement, they would have to counter sink with a larger drill bit, widening the drill hole partially through the hinge support. This would only be done on the top hinge support to provide best support against eventual door sag.



10. Drilling the frame.



11. Countersinking the anchor hole.



12. This die fits under the frame when counter sinking. It's best to brace it with a board or plate to absorb the impact of the sledge.

The inside portion of the frame would be mounted into cinder block, again avoiding mortar. The frame was

placed back into the opening, again, checking to assure everything was plumb, level and square. The frame was marked as to where the mounting holes were to be drilled, taking into account the mortar between the bricks on the outside, and the mortar between the cinder blocks on the inside.

After all of the positions were marked, the frame was again removed from the opening and placed on the ground. The frame is now precisely measured for the drilling of the anchor holes (see Photograph 9).

Once all of the positions are marked on the frame, the holes are drilled. A small drill bit is used first, then followed with the larger bit (see Photograph 10).

Once the anchor holes are drilled, the counter sink is applied using a punch and die. This punch and die is applied with sledge hammer force (see Photograph 11).

Photograph 12, shows the die portion of the tool which is placed under the door frame. The frame is sandwiched and compressed to form a countersink hole by the punch and die (see Photograph 13).

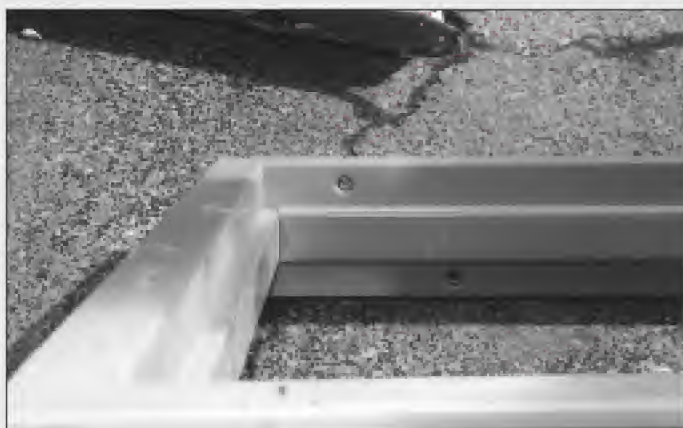
The frame is lifted back into the opening, not forgetting to check for plumb, and the first series of holes are drilled into the brick (see Photograph 14).

An anchor is attached by pushing it into the hole and screwing it into place (see Photograph 15). Vertical and plumb is again checked with one anchor in place. The installation of each additional anchor will reduce the ability for plumb adjustment, but with the addition of each anchor, the potential exists for the frame to become out of plumb!

With the hinge side of the frame anchored, the bottom support bracket on the door frame is removed. The bottom bracket keeps the frame secure and square during shipping and in the initial steps of installation. The bracket is usually cut with a grinder.

Continued on page 20

Continued from page 18



13. The finished product, countersunk holes.

The hinge side of the frame went up with no problem. Before the latch side of the frame is anchored, the new door is attached to the frame. The hinges are first attached to the door (see Photograph 16). The door is then mounted in the door frame and each hinge is secured with one screw (see Photograph 17). The door is now closed and checked for clearance.

While the door installation looks pretty good, a very slight binding occurs on the frame when the door closes. Adjustments must now be made while anchoring the latch side of the frame.

This particular installation did not require frame shimming on the hinge side, many installations do. However, virtually all will require shimming of the frame on the outside of the latch side of the frame (see Photograph 18), as



16. Hinges being attached to the door.

well as the inside of the latch side of the frame (see Photograph 19).

The remaining anchors are installed, each time checking for vertical and plumb. As the latch side of the frame is secured, the door is checked for proper closing and swing - including our potential problem with the uneven parking lot



14. Ted drills the first hole into the wall, using the frame as guide.



15. The anchor is placed in the hole and tightened.



17. One screw is installed to the frame at each hinge.



18. Shims on the outside of the latch side of the frame.



19. Shims on the inside of the latch side of the frame.

surface. There was plenty of room for door swing and the door fit perfectly. Now the remaining hinge screws are installed into the hinges and checked for tightness. The exposed portion of the shims are then snapped off at the frame.

That concludes the installation of the frame and door. Next month we conclude with the installation of the threshold and door hardware. See you then.

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1 This time out we take a look at the 1997 Volvo 960 Sedan. This car has a high security 4-Track locking system. Volvo started using a 4-Track system in 1988 on the model 760GLE. In 1993, Volvo started using a 4-Track system on almost all models. The 4-Track system used from 1988 through 1992 uses a different space & depth than the newer system that was introduced in 1993, and runs up through the 1997 model year. The older system used a different type of tumbler also. This car is also equipped with Dual Front Airbags and S.I.P.S. (Side Impact Protection System). The S.I.P.S. Airbags are mounted in the outward side of the two front seats. The S.I.P.S. Airbags are not detectable looking at the seats.



by
Michael Hyde

Opening



2 This version is the USA model and is not equipped with deadlocks, ignition immobilizer or Transponder system, as with other models sold in Europe. To open this car I use a tool from Tech Train called the "TT-1020." The inside lock and latch control linkages are of the bicycle cable type and are well shielded, this tool is a must.

Continued on page 24

The 1997 Volvo 960

Part 1



Continued from page 22



3

This tool is made for the passenger rear door. It will be necessary to gently lift up the window weather-stripping trim. Gently wedge it up to avoid putting a bend or kink in the trim.



4

Insert the tool in the small opening at the end of the door.



5

The tool in the working position.

Ignition



6

The ignition lock is simple to remove with a working key. To remove the lock cylinder for servicing you must disassemble the two-piece plastic shroud that encases that part of the steering column. Before disassembly of the steering it is important to disconnect the battery as a precaution, even though you will not be disassembling the Airbag system.



7

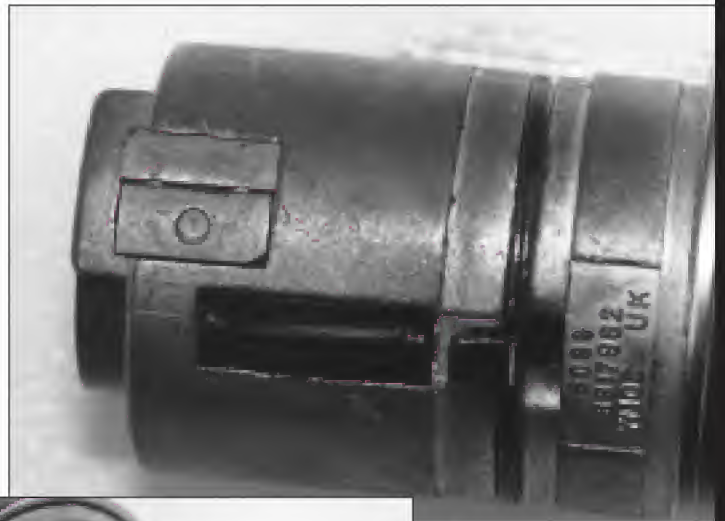
The shroud is held in place with six Torx screws. The steering column is adjustable and the adjustment lever must be removed, it is held on by a 3mm Allen screw. Once the screws are removed, slide off the tilt lever, the top portion of the shroud and then slide off the bottom portion on of the shroud.



8 Insert a working key and turn it to the first position "1." Since this model uses an active retainer, insert a 90 degree probe into the top portion of the lock housing and then slide out the lock cylinder.

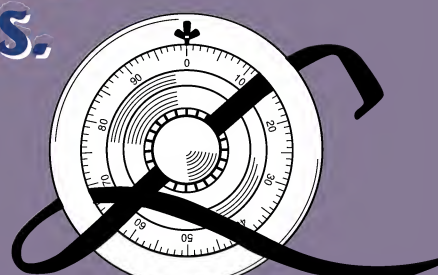
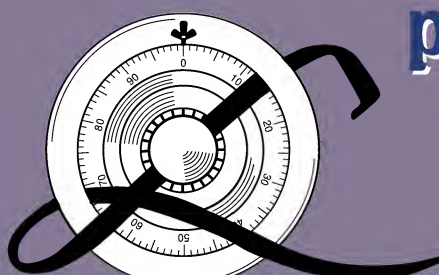
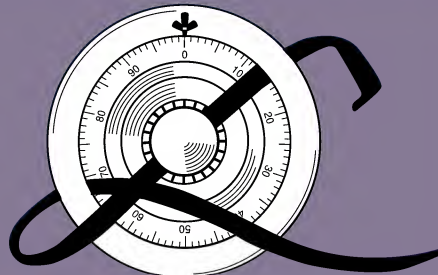
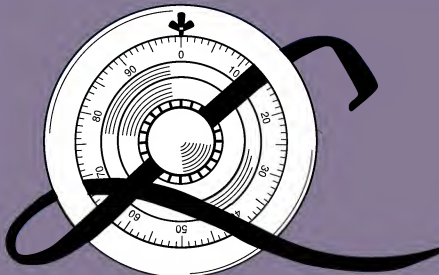


9 The lock cylinder retainer is in the shape of a half-moon. If an undo amount of force was to put on the center portion of the retainer through the poke-hole, the retainer would shear and separate. Then the lock cylinder would have to be destroyed to be removed, this was designed as a anti-theft feature.



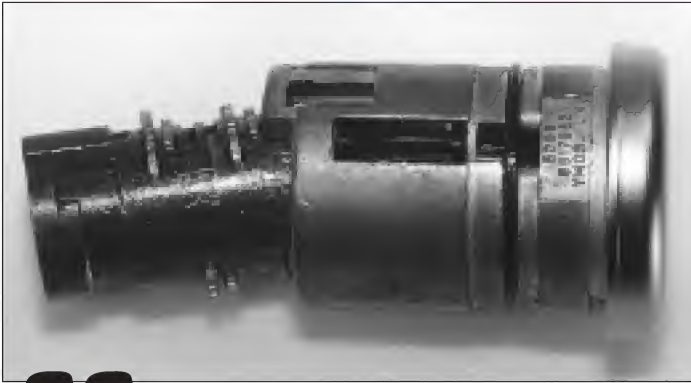
10 To dis-assemble the ignition cylinder you must remove the cylinder "wedge." Use a small screw-driver to ease the wedge up from underneath.

(Note: There are variations between the size and shape of the retention wedge.)



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11 Once the cylinder plug wedge has been removed you can slide the plug out the back of the cylinder housing.



12 The ignition lock cylinder consists of the cylinder housing, cylinder plug, tumblers and springs, plug wedge and the two front roller bearings.



13 The cylinder plug contains all eight tumblers for a complete key.



The door lock cylinder is not part of the outside door handle.

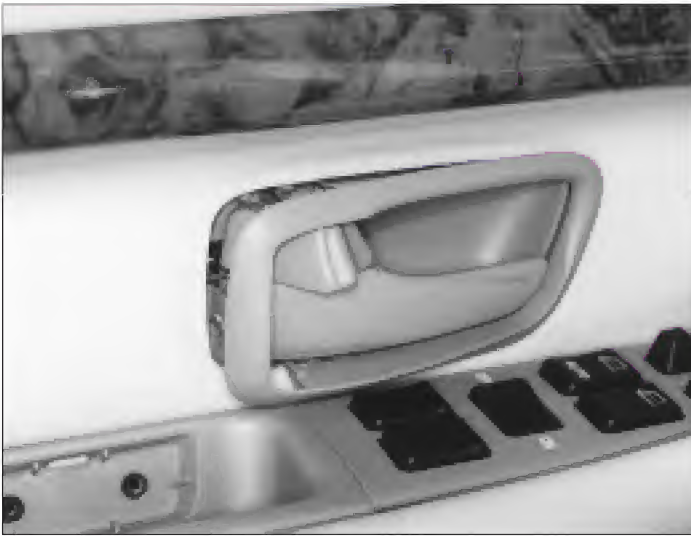
14



15 To service the door lock you must first remove the inside door trim panel.



16 Remove the plastic trim cap that is located in the door pull cavity and remove the two Torx screws.



17 Unsnap the trim ring that sits on the inside release handle.



18 On the bottom of the door panel are three white panel fastener clips. Use a small screwdriver to remove the clips, they slide right off.



19 The panel can now be removed. It uses the standard plastic push-in style clips. Disconnect the rear wiring harness and then the panel can be tilted on its side and be out of the way. Disconnecting all of the door panel wiring harness is not necessary.



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20

Pull back the rear section of the door panel liner. The latch mechanism is shielded by a large plastic cover. You do not need to bother with any of this as the door lock cylinder can easily be removed without having to remove this shield.



22

This is the lock cylinder clip. As you can see, this is no ordinary clip.



21

Remove the two Torx screws on the rear edge of the door. You can now slide off the lock cylinder clip.



23

The door lock cylinder can now be removed. Line up the slot on the tailpiece to remove the tailpiece from the lock linkage rod.



24

The door lock cylinder removed. This is no ordinary lock cylinder, either.



25 To service the door lock cylinder, first remove the Torx screw that holds the tailpiece on.



26 Gently unsnap the black plastic trim ring on the face of the lock cylinder. There are no replacements available so you will need to reuse it. A new lock cylinder costs over \$100, so take your time.



27 There are two retention rings that hold the cylinder plug into the cylinder housing. Both must be removed to pull the cylinder plug.

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28 To remove the first ring, locate the very small roll pins, one on each side, and remove them. I used a 1/16 inch drill bit and drilled next to each pin and it removed easily.



29 The second retention ring is of a different type and is a little harder to get to. It was necessary to drill a small hole in the cylinder housing to assist in prying out the second ring. It is made of spring steel.



30 The plug can now be removed, with or without a working key.

The cylinder plug has a secondary sleeve on it. At the end of the plug is the tailpiece receiver cap.

31

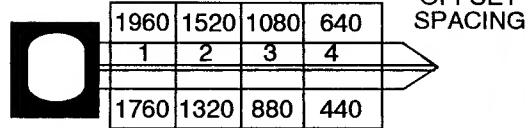




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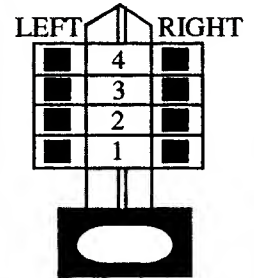
Measured From Tip.
Cut to cut: .440 mm, with a
Flat of .100mm



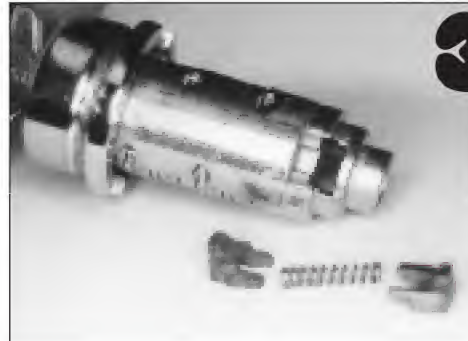
Depths:
1 = .735mm
2 = .670mm
3 = .605mm
4 = .540mm

Dimensions for this key are shown in hundredth of millimeters, (1mm = 100 millimeters)

IGNITION
& DOORS



32 Here the secondary sleeve is removed from the plug. The sleeve has two Hockey Puck looking devices that sit in the rear slots of the sleeve.



33 The cylinder plug has two spring loaded detents that actually rest in a slot on the rear of the cylinder plug.



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34 The door lock cylinder, disassembled.
The door lock cylinder contains all
eight tumblers for a complete master key.



That covers the ignition and door locks. Next month we finish up with the Trunk and Glove Box locks. See you then. 



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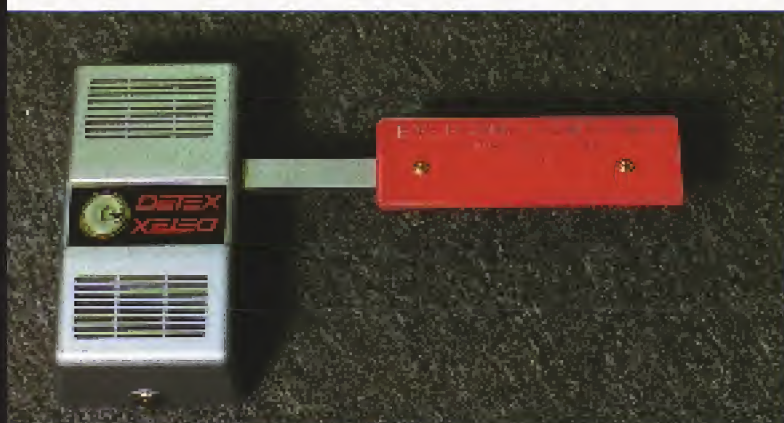
The 230 has changed a great deal over the years. Through all the previous revisions, two things have remained constant: the large 6V battery, and the dual horns. Well, this is true no more.



by
Steve Gebbia, CML

One of the things I have always enjoyed about locksmithing is dealing with high quality products from quality-minded manufacturers. One of those manufacturers is Detex Corporation. Over the years, they have made many changes to their products. Each change has been to increase durability, ease of installation, and improve appearance. This is a rare find - a manufacturer that wants to improve its products, and not just the bottom line.

While Detex makes many products, they are best known today for their 230 series exit control lock (see Photograph 1).



1. Detex makes many products, but it is best known today for the 230 series exit control lock.

The 230 has changed a great deal over the years. Recently, the most significant change was made. Through all the previous revisions, two things have remained constant: the large 6V battery, and the dual horns. Well, this is true no more. As of April, 1996, all 230-D exit control locks are shipped with a 9V battery and a piezo sounder. To complement this, a retrofit kit is available for older 230-C and 230-D devices.

Detex has even improved the packaging. By removing the activation arm, the device can be shipped in a smaller, more compact box. In fact, this box is so different that the first time I saw one I thought my supplier had shipped the wrong product.

What Did They Do?

The battery and sounder are not the only changes that were made. The entire electronics package is upgraded. These are the items that have been removed:

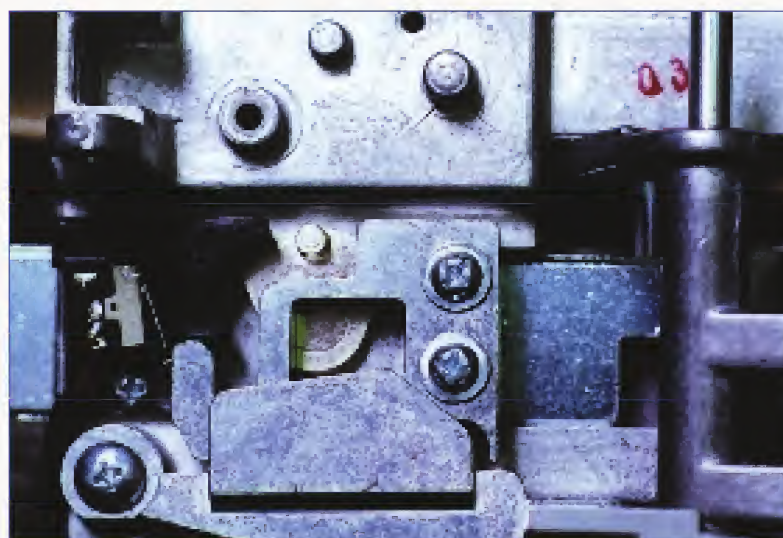
- The terminal strip
- Rear-mounted switch
- Trigger lever and slide
- Torsion spring for trigger lever
- Dual horn assembly
- 6V battery
- Battery tray

These are the items that are new:

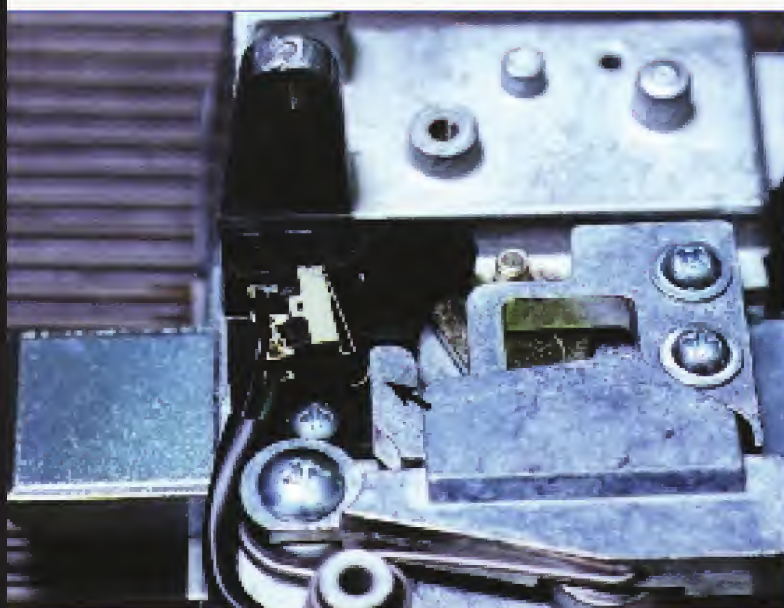
- 2 switches - mounted under cam bridge assembly
- Nylon switch trigger lever
- 9V battery & bracket
- Piezo sounder & bracket

When you compare an older model with a new one the changes are dramatic.

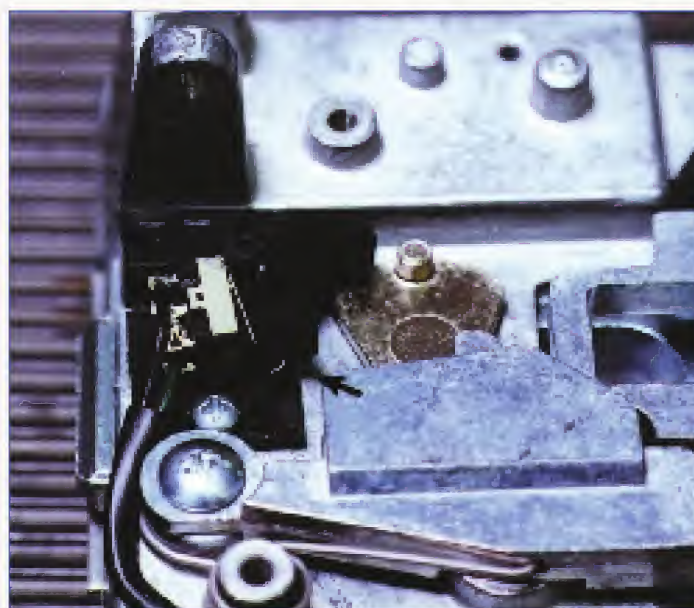
Photograph 2, shows the new switch and trigger assembly. This is located directly under the cam bridge (the cam bridge is the nose-like assembly that holds the inside cylinder). The trigger is activated by rotating the key in either the inside or outside cylinder. This trigger activates the upper switch which arms or disarms the device. The lower switch triggers the piezo sounder.



2. The new switch and trigger assembly.



3. The lower switch is held closed when the bolt is extended.



4. The bolt has been retracted and the switch is now in the open position.



5. The newly designed trip lever is a very sturdy, reliable design.

In *Photograph 3*, you can see the lower switch is held closed when the bolt is extended (indicated by the arrow). In *Photograph 4*, the bolt has been retracted and the switch is now in the open position, allowing the piezo to sound.

The newly designed trip lever is a very sturdy, reliable design, which is much better than the original design (see *Photograph 5*). The older trip lever had two 90 degree bends in it which weakened it. With heavy use/abuse, this lever would often bend. These locks are often used in warehouses and in restaurant kitchens where they receive punishing treatment on a daily basis. A chain - or a lock - is only as strong as its weakest link. This lever was the weak link in an otherwise top-notch product. The lever is a weak link no more.

Locating the switches under the cam bridge - along with the new trip lever - allows the elimination of several components on the back of the device. *Photograph 6*, shows the back of the older model. Visible here is: the terminal strip; trip lever; trip lever torsion spring; switch; and activating slide (located under back plate).



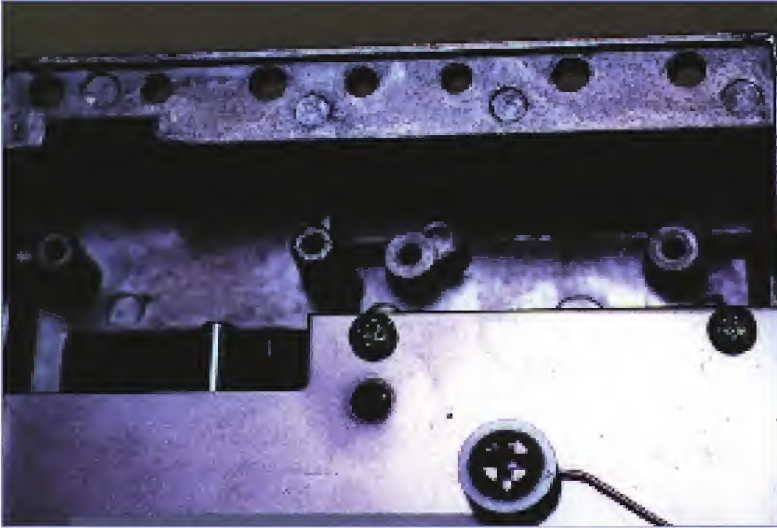
6. Locating the switches under the cam bridge allows the elimination of several components on the back of the device.

Now look at *Photograph 7*. This is the same view - of the new model. Everything is gone. Engineering rule number 1 is evident here: Keep it Simple!

Although significant changes were made, none affected the mounting or operation of the device. Because of this, Detex chose not to change the model number. To order, simply specify Detex 230-D Exit Control Lock.

Retrofitting Previous Models

One of my pet peeves has always been people (maintenance men, customers, and other locksmiths) who were too lazy to use the proper battery. Sometimes, they would splice in a 9V battery connect. Usually, they would cut the wires and wrap them around the terminals of a standard lantern battery. Knowing the abuse these doors get, I was concerned that these connections would loosen and cause the battery to short out against the lock body or the door. Now this conversion can be done properly and very easily.



7. This is a view of the new 230-D model. Notice everything is gone.

All that's needed is the new 9V retrofit kit for 230-C and 230-D models (see Photograph 8). The part number for this kit is: ECL-2111-K. According to Greg Drake of Detex, it is not recommended for models 230-H, 230-K, and 230-B. Although not readily apparent, the electronics in these models is not as advanced as in the C and D models. Factory testing has shown that the 9V battery and piezo are not reliable when connected to the earlier models. If you have an earlier model, consider replacing it with a new 230-D.



8. All that's needed is the new 9V retrofit kit for 230-C and 230-D models.

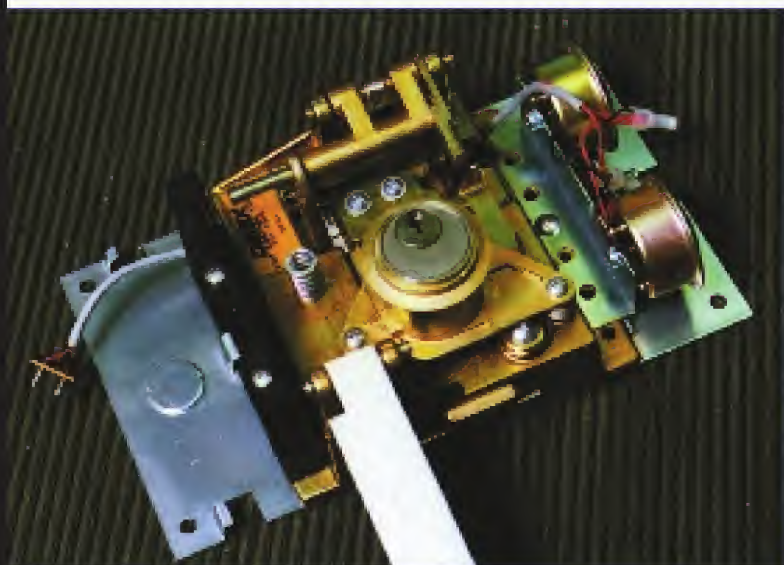
Step-By-Step Conversion

Photograph 9, shows a model 230-C. Notice how much room is taken up by the large horns, and how much room is required for the lantern style battery. We're about to change all that. The conversion is very simple and takes only a few minutes. The only tools required is: a Phillips's screwdriver; a wire cutter; and a regular screwdriver (to remove a few mounting screws).

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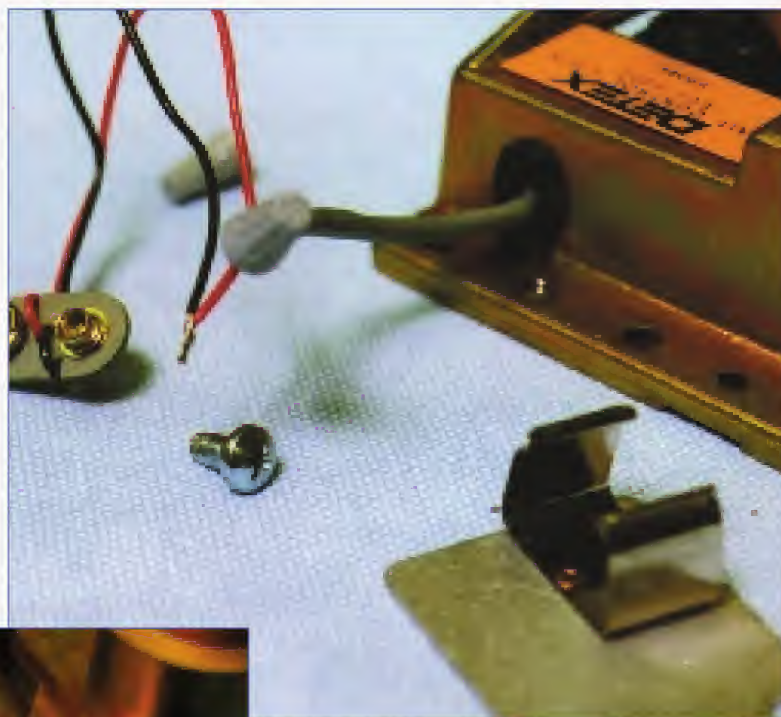
9. Notice how much room is taken up by the large horns and battery on the 230-C.



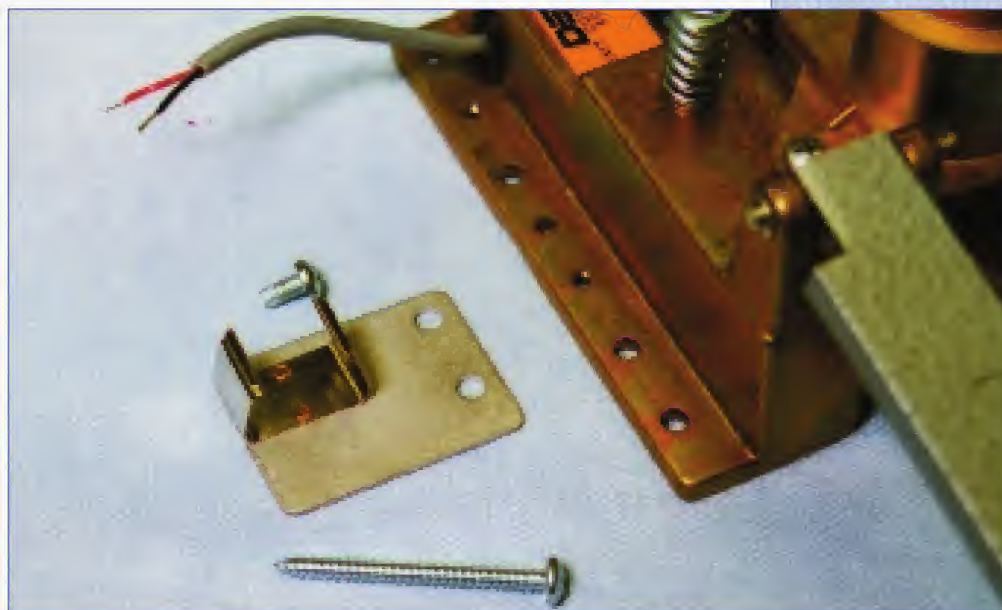
10. Start the retrofit by removing the old battery and battery holder.



11. You'll need as much of the wire lead as possible, so cut them as close to the connector as you can.

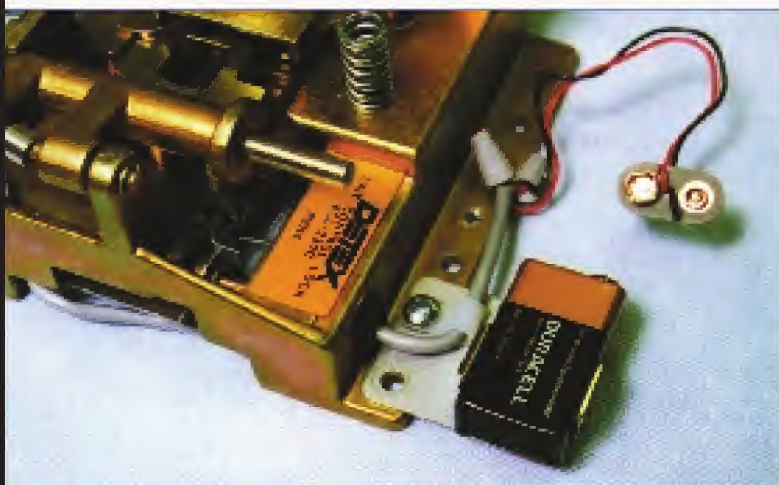


12. Make your wiring connections first then install the battery mounting plate.

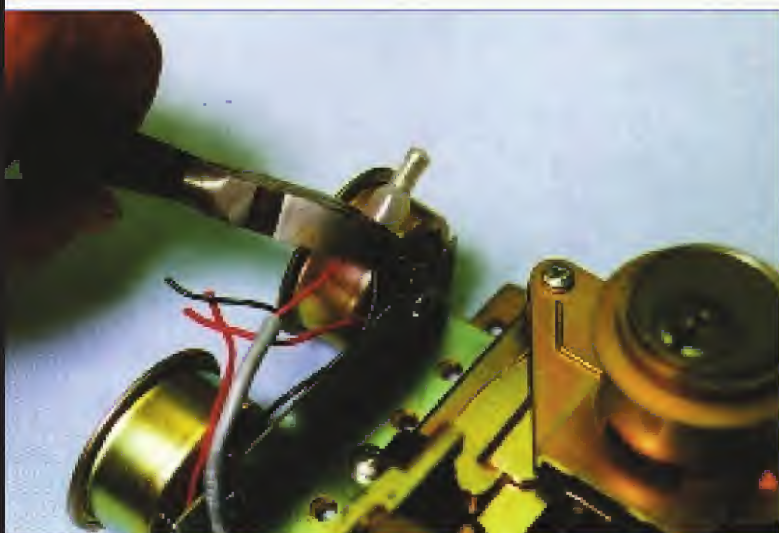


Continued on page 40

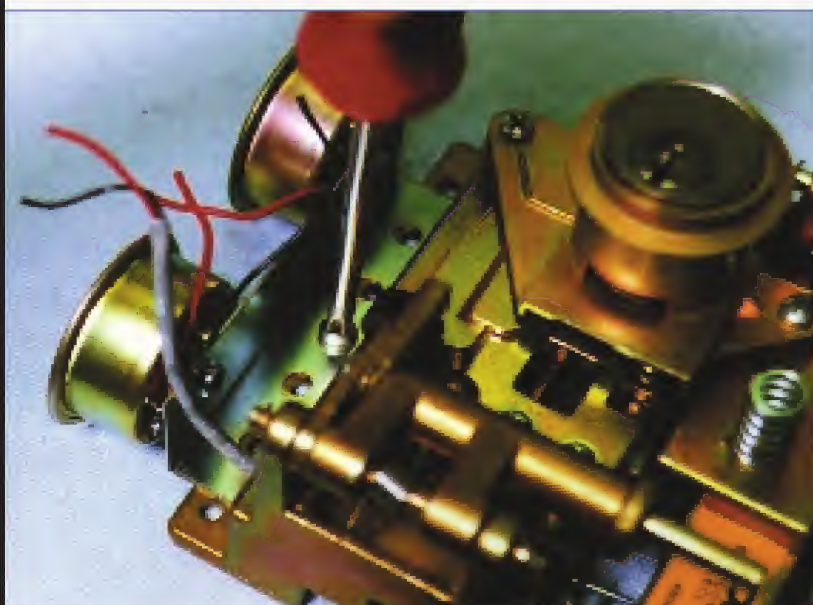
Continued from page 38



13. Place the mounting plate at the edge of the device as shown.



14. Cut the horn wires first.



15. With the wires cut, remove the horns and discard them.

One caution - READ THE INSTRUCTIONS FIRST! There is an unusual twist to the wiring. When making your wiring connections, reverse your polarity! That's right: connect the black wire to the red and connect the red wire to the black! The reason for this? Out-sourcing of the switches and piezo sounder.

The polarity of the new switches and piezo are reversed from that of the original Detex horns and switch. The piezo sounder used in the retrofit kit is the same as in the new 230-D. The switch, however, is not replaced as part of the retrofit. The new switches can't be installed in old models because there is no mounting boss for the new switches. In order for polarity to remain constant, the red wires must be connected to the black wires. The revised model 230-D has all new electronics, so this is not an issue there.

Let's Get To It

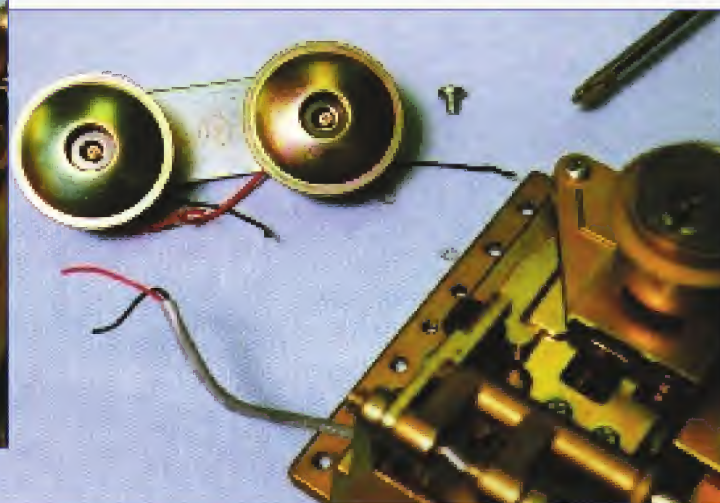
Start by removing the old battery and battery holder (see Photograph 10). Discard them. Next, cut the old wires leading to the battery. You'll need as much of the wire lead as possible, so make sure to cut them as close to the connector as you can (see Photograph 11). Strip back about 1/4" of insulation.

The instructions tell you to install the battery mounting plate next. I found that it's easier to make your wiring connections first. Remember to connect RED to BLACK & BLACK to RED (see Photograph 12).

Now install the mounting plate. Place it at the edge of the device as shown in Photograph 13. Be sure to use and install the nylon wiring strap. The new mounting screw, wire nuts, and nylon strap are all included in the kit. One change you may want to make is to use crimp-type wire connectors such as 'pigtailes' or 'beans' instead of wire nuts.

Now, move to the other end of the device. Cut the horn wires first (see Photograph 14). With the wires cut, remove the horns and discard them (see Photograph 15).

This part of the kit includes two nylon spacers to lift the piezo away from the door, a long machine screw and a long sheet metal screw for mounting it. The machine screw attaches the mounting bracket to the lock, and the sheet metal screw passes through the mounting plate and secures the lock to the door. This helps stabilize the mounting bracket and piezo.





16. To install the new piezo horn, strip the insulation back and make your connections.



17. The bracket mounts right at the edge of the device.



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To install the new piezo horn, strip the insulation back and make your connections (see Photograph 16). The bracket mounts right at the edge of the device (see Photograph 17). Be sure to route the wire under and between the 2 nylon spacers (see Photograph 18). Install the nylon wire strap and you're done (see Photograph 19).

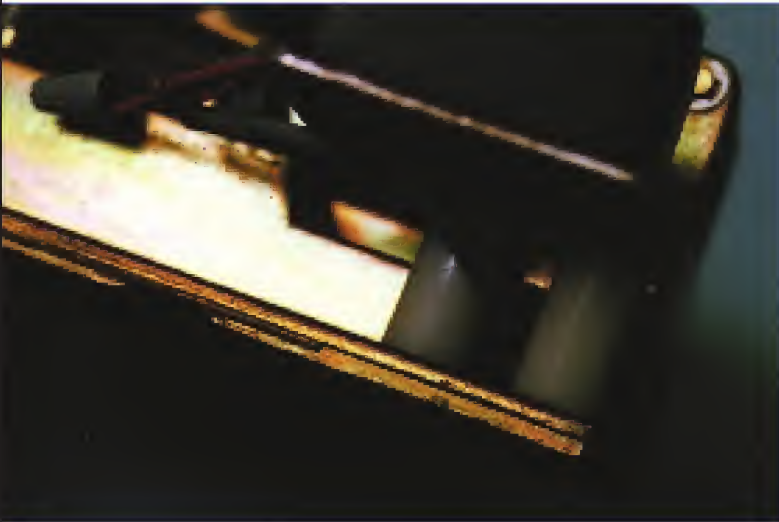
The completed conversion should look like that in Photograph 20. Notice the locations for the battery mounting plate and the piezo right at the edge of the device body.

Placing these elsewhere will leave you with shorter wire leads and the mounting brackets will interfere with the locator tabs on the mounting back plate.

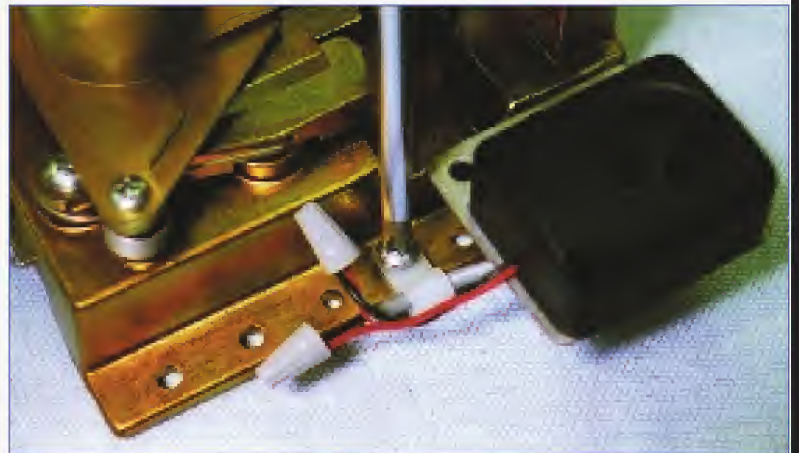
Well, that was quick! The conversion was completed in just a few minutes, and the lock was never removed from the door.

Ch-Ch-Ch-Changes

Photograph 21, shows the completed conversion of a 230-C along with a new 230-D device. The activator arms have been removed for clarity. Wow what a difference! The converted lock is on the left, the new one is on the right. As you can see, the new models have both the battery and the piezo placed



18. Be sure to route the wire under and between the two nylon spacers.

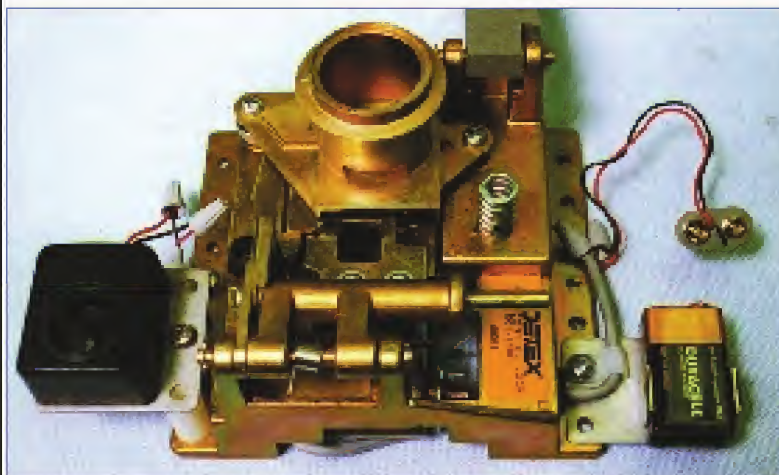


19. Install the nylon wire strap and you're done.

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20. The completed conversion should look like this.

on the same end of the unit. This is not possible on older units because of the placement of the existing wires.

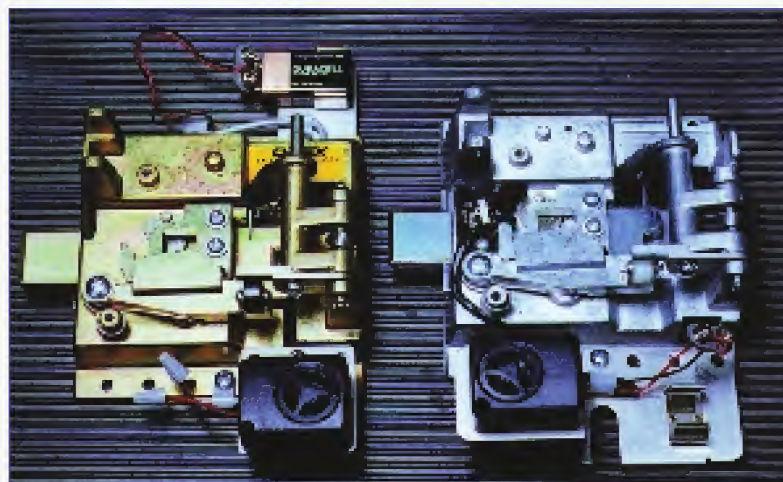
Compare these 9V locks with a non-converted lock shown in *Photograph 9*. Not only has it become more reliable - and easier to service - a lot of room has been freed up. This leads us to wonder if Detex is leading up to a major redesign of the outward size and appearance of the 230 series lock? The answer is no.

A major source of their sales of new 230 devices is for retrofit of older, damaged and neglected units. A new 230-D device will directly replace the existing mounting holes of

any previous 230 series device. This holds true to this day. By not changing the outward size of the 230 Exit Control Lock, Detex has assured that this will continue to hold true well into the future. Just another example of a manufacturer that cares.

This doesn't mean that the engineers at Detex are resting on their laurels. Change - for the better - is a way of business at Detex.

For further information on Detex products: call 800-729-3839. **TNL**



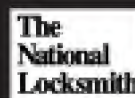
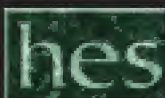
21. The completed conversion of a 230-C along with a new 230-D device.

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by
**Jim
Langston**



1. The Star lift-out floor safes are one of the most common floor safes you will encounter.

Star lift-out floor safes are one of the most common floor safes you will encounter. It is also one of the easiest to open and service (see Photograph 1). A unique feature about this unit is that it utilizes a push-in removable dial (see Photograph 2).

In this article, we will be covering how to set the combination and how to disassemble the entire safe head for cleaning and repairs. We will also cover some trouble shooting tips and drill points in the event of a lockout.

Opening Procedures

All Star lift-out round door floor safes are three wheel units, which means it will always be a three number combination. To open when set to a combination such as: 28 - 76 - 34, do the following.

1. Turn dial to the LEFT four times, stopping when "28" is aligned with the star opening index the fourth time.

2. Turn dial to the RIGHT three times, stopping when "76" is aligned

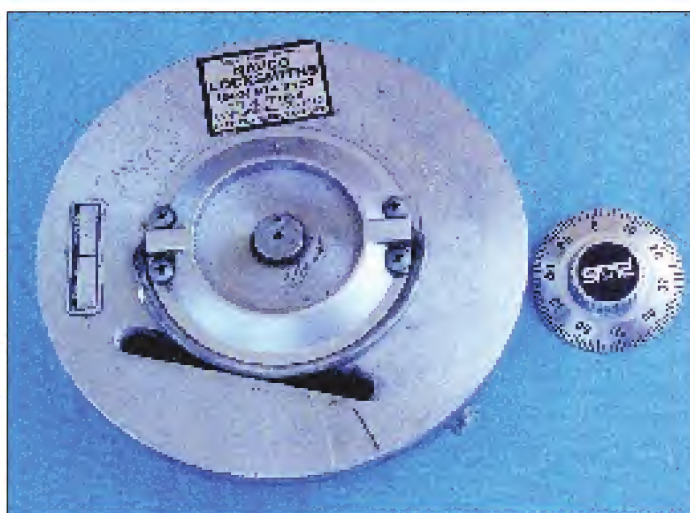
with the star opening index, the third time.

3. Turn dial to the LEFT two times, stopping when "34" is aligned with the star opening index, the second time.

4. Turn dial to the RIGHT, stopping when "0" is aligned with the star opening index.

5. At this point, push in (down) on the dial while simultaneously turning the dial to the RIGHT until it stops, which should be around 72. If the dial does not come to a stop, the wrong combination numbers or dialing sequence was entered, and you must start over again.

If all goes well, the dial will come



2. A unique feature about this unit is that it utilizes a push-in removable dial.



3. Remove the lock cover on the back of the safe by removing three screws.





4. Remove the fence which simply just slides up and out.

to a stop, the door locking bolts will retract and the safe will be open.

To Lock

Turn the dial to the left at least FIVE full revolutions.

Changing to a New Combination

Make up a new combination, selecting numbers of your own choosing. For maximum security, do not use numbers ending in 0 or 5, such as: 20-75-30, and do not use numbers in a rising or falling sequence, such as: 10-20-30 or 75-50-25. Also, do not use any of the numbers between 95 and 10 as the last number of your combination. This is the forbidden zone for this lock and could cause potential problems.

The forbidden zone only applies to the third wheel, or last number of the combination. All 100 numbers can be used for the first and second wheel, or combination number.

1. To change the combination, first dial the existing combination to the "Change Index." The change index is a single line on the dial ring about 10 numbers to the right of the star opening index. Stop on the third number of the combination. When changing the combination, you do not turn the dial right to "0." Stop on the last number of the actual combination.

2. Next, insert the proper change key into the change key hole in the back cover of the safe head and turn to the LEFT, about 1/4 turn.

3. Dial new combination to the "Change Index," stopping on the last number of the combination.

4. Rotate the change key back RIGHT about a 1/4 turn and remove.

5. Test the new combination using the same dialing sequence as in the opening procedure.

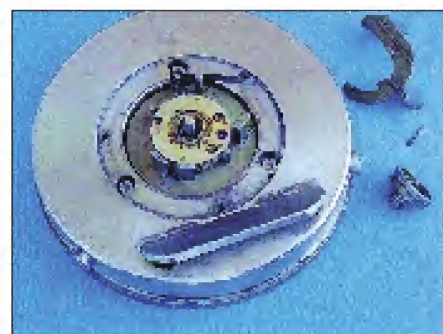
Disassembly for Cleaning and Repairs

Remove the lock cover on the back of the safe by removing three screws (see Photograph 3). NOTE: Mark the cover so you can put it back in the same place.

Remove the fence which simply slides up and out (see Photograph 4).

Remove the spline key and drive cam by prying the spline key up and out with side cutters, and then unscrew the drive cam from the spindle (see Photograph 5).

Next remove the spirolux retainer



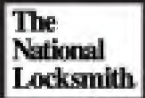
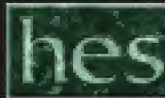
5. Remove the spline key and drive cam by prying the spline key out and then unscrew the drive cam from the spindle.

Continued on page 48

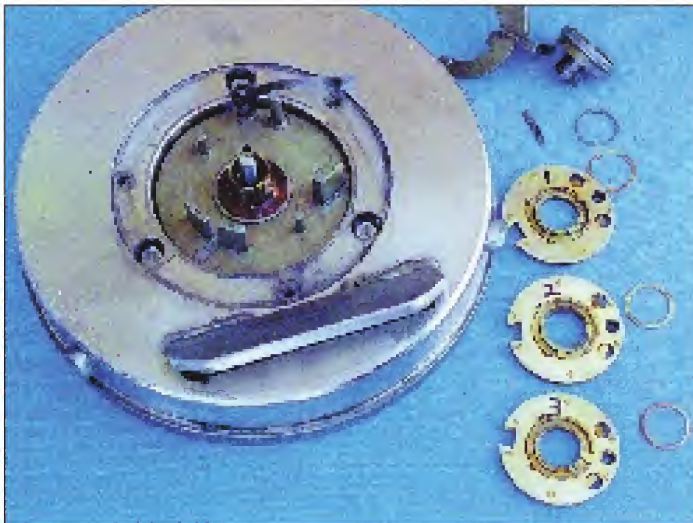


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Continued from page 45



6. Remove the spirolux retainer which will allow removal of the wheel pack and spacer washers.

that holds the wheel pack on. Use a small flat blade screwdriver to work the retainer up and around the wheel post. This will allow removal of the wheel pack and spacer washers (see Photograph 6).

With the wheel pack removed, you can now remove the cam assembly by removing the retainer ring and lifting the cam assembly off the wheel post (see Photograph 7).

To remove the door locking bolts, push each relock pin down and remove each locking bolt (see Photograph 8).

With the door locking bolts removed, each relock pin and spring can be removed (see Photograph 9).

All that is left to remove is the hard plate ring which will lift right out (see Photograph 10).

With the safe door completely disassembled, each part can be thoroughly cleaned and lubricated.

Trouble Shooting Techniques

There has been surprisingly little service trouble with the STAR lift-out floor safe. However, there are a few instances in which opening difficulties can occur. Should you encounter difficulty opening this safe, here are a few procedures to follow:

1. Check and be sure the door is floating free in its opening and not binding the locking bolts. If there is no "looseness" remove the cause of the bind if possible, or tap or pound on it until positive there is no pressure or bind on the locking bolt or bolts. Star lift-out doors should turn freely for at least 1/3 revolution.

2. Be sure the numbers being used are correct, check a written record if possible.

3. On the Star "push-in" dial there will be a change in the "feel" as the dial springs back from the pushed down position to about the mid-point. If this "feel" exists, then the fence is operating properly.

4. Work the combination according to the operating instructions, return the dial to the drop-in position — normally "0" on most locks — oscillate the dial about 20 marks rapidly. If this does not work, return the dial to 0 and rapidly push in and out. This action will vibrate the fence and if the setting is close

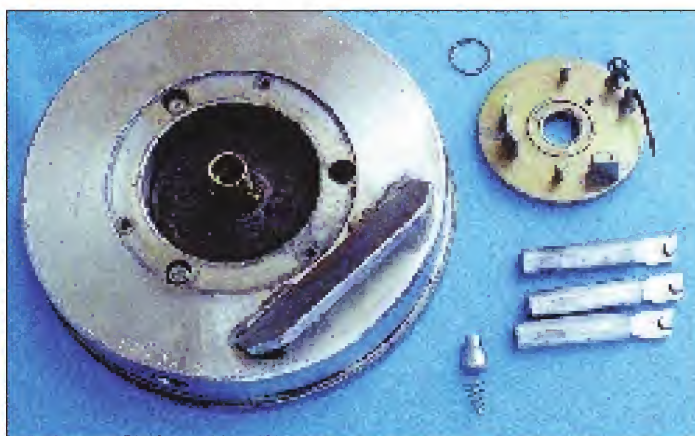


7. Remove the cam assembly by removing the retainer ring and lifting the cam assembly off the wheel post.



8. Remove the door locking bolts, push each relock pin down and remove each locking bolt.





9. With the door locking bolts removed, each relock pin and spring can be removed.

sometimes it will cause it to drop, thus allowing the lock to open.

5. Try one number above the regular combination numbers on all numbers.

6. Try one number below the regular combination on all numbers.

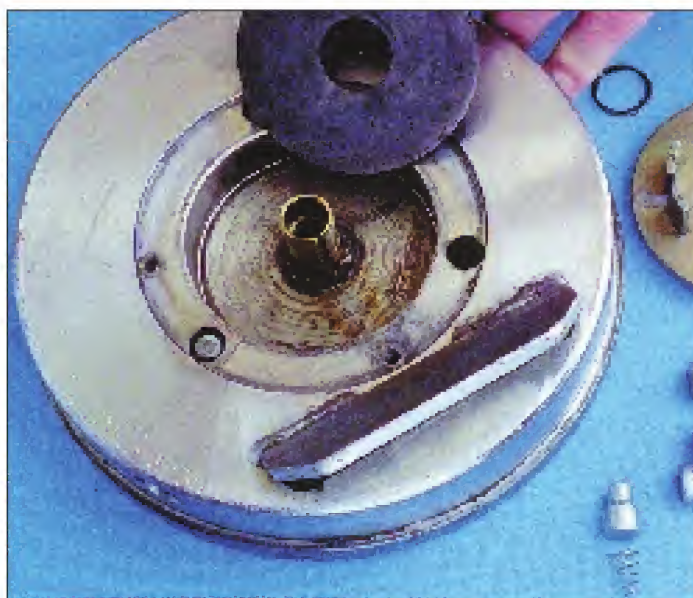
7. Try one number above the first number, keeping the other two the original numbers. Then try the second and the third in the same manner. Try this same procedure one number below the three original numbers.

8. If the foregoing fails, try the same procedure using a two, three, four or five number difference.

9. If you are still unsuccessful try striking the door with a heavy rubber mallet to jar loose a part that may be stuck.

Advanced Troubleshooting

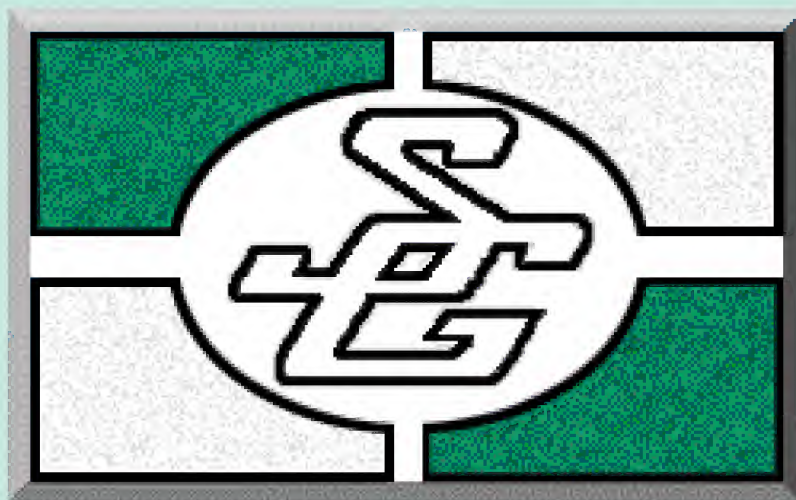
1. Verify that all wheels are picking up. To do so rotate dial left five times, stop at 0. Turn dial right to 90 and stop. Swiftly rotate the dial



10. All that is left to remove is the hard plate ring which will lift right out.

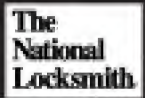
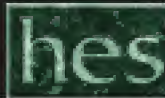
to the right past 0 with a sensitive feel on the dial to detect contact pick-up with the number three wheel. Continue procedure in the same manner for the second and first wheel.

If you do not feel a wheel pick-up, the drive cam pin or wheel fly may be broke. This would require drilling the safe to open.



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2. Verify that all wheels are picking-up at the same spot. To do so, turn the dial left five times and stop on 0. Rotate the dial to the right feeling for contact or wheel pick-up at 0. Continue the same procedure for the other two wheels.

3. If all three wheels do not pick-up at 0, then a fly may be sticking or one wheel may be dragging another out of position. If this condition exists, operating the combination briskly may defeat the condition and

allow the lock to be opened.

4. Persistence, patients, and deep thinking can open a lock that has this problem without drilling.

Missing Spline Key

This is evidenced by the dial spindle screwing out of the drive cam.

1. Grind or machine about a 10 degree taper on end of spindle so the spindle can be pushed into drive cam about 1/4 inch.

2. Secure a spine key tightly in spindle keyway.

3. Carefully insert spindle into drive cam being sure spine key enters keyway. Tap lightly to wedge spindle taper into drive cam.

4. Carefully pull drive cam into engagement with combination wheels and operate combination in usual manner.

Lock Drilling

Drop in for this safe is 41. This is where the wheel gates align with

the fence. If you need to drill this unit to open, set the dial at "0" and remove the dial ring. Scribe a line on the safe head at 41 just outside the dial (see Photograph 11).

Remove the dial and measure 1 inch from the center of the spindle at the scribed line (41) and mark the spot (see Photograph 12). This is your drill point. Drill a 1/4 inch hole through the safe head and hard plate. After you are through the hard plate, you should be able to see the wheels and fence. Align all the wheel gates at this spot.

Replace the dial and set at "0." Push the dial in allowing the fence to drop into the wheel gates and turn to the right to retract the bolts.

Relocker Drilling

There are three relockers in this safe, one on each bolt. The relockers can only activate if the back cover is loose, punched in, removed or falls off due to the screws being loosened.

To determine if a relocker(s) is triggered, the existing combination will still work, but the dial will not rotate on the last turn. It will remain locked at about 0. This is on the assumption that the spindle was not punched in and the back cover totally knocked off. If this happens, there is no way to determine which of the three relockers has been triggered. This means you may have to drill all three before the door locking bolts can be retracted.


Drill points for the relockers is approximately: 2 x 1-7/8" from dial center, 35 x 1-7/8" from dial center and 68 x 1-7/8" from dial center.

Drill a 1/2 inch hole at each location. When through, you can remove the spring and relock pin.

The Star lift-out is a safe you will encounter often. Once thorough understanding of the unit is acquired, you will find this safe to be fairly easy to service or repair.

For more information on Star products call: (909) 685-9680.

Points to Ponder

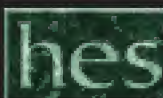
The most valuable inheritance you can leave your children is not a lot of money, but rather the example you set in life. 



11. Scribe a line on the safe head at 41 just outside the dial.



12. Remove the dial and measure 1 inch from the center of the spindle. This is your drill point.



The 1997 Reader's Choice Award Winners

Once again it is time to present the products you feel are the best in their class. This is the third year *The National Locksmith* has presented the **Reader's Choice Awards**. Over the past few years the **Reader's Choice Awards** have become a very well received annual event.

The company names presented here are a reflection of *your* vote for the best in each category. There are a total of 41 products that you feel deserve recognition for outstanding quality, service and design.

The National Locksmith extends it's congratulations to all who have been granted a **Reader's Choice Award**. The top five vote recipients follow in alphabetical order: HPC, ILCO, M.A.G., MASTER, SCHLAGE.

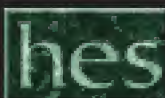


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ACCESS CONTROL

Reader's Choice Awards



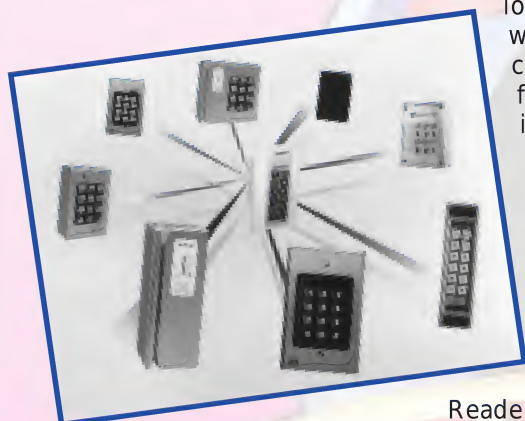
SelectEntry™ From Locknetics Security Engineering

SelectEntry combines the advantages of a high security, re-programmable data key and a keypad at a single access point. .. for the cost of standard keypad model alone. The TouchEntry™ data key employs a 64 bit data chip for over 280 million combinations. The local controller supports easy programming of up to 150 individual codes through the keypad. Tens of thousands of users and access points can be programmed and uploaded through SelectEntry's communications ports using Locknetics software and portable or laptop PC's. SelectEntry is available for the full range of Locknetics' computer-managed access control devices, including electromagnetic and electromechanical locks.

Securitron Introduces New DK-26 Digital Keypad System

Securitron Magnalock Corporation introduces the new DK-26 series keypad system for medium to high security locations. Using the extremely durable waterproof, narrow stile door frame size, cast stainless steel keypad technology from its previous version, the DK-26 incorporates a significantly upgraded central processor unit with features such as: True 10 digit keypad operation, Non-volatile EEPROM memory, Sixty codes programmable from keypad, Programmable LED's and Beeper, Exit request input (REX) and more.

The DK-26 is available as a complete system with separate CPU controller housed in an easy to service metal cabinet placed inside the protected area.



Secured Series Touch Readers by IEI

International Electronics, Inc. (IEI) announces the new Secured Series Touch Reader. The newest member of the popular Door-Gard Secured Series access control products, the Touch Reader uses reliable Dallas Semiconductor Touch Memory technology and incorporates a rugged, stylish, backlit, weatherproofing housing. A built-in sounder confirms that a "token" has been read and access is visually confirmed or denied by green/ red backlighting.

AUTOMOBILE LOCKS

Reader's Choice Awards

All-Lock's Vat Keys

While just released, the ALL-Lock VATS replacement key has quickly become one of ALL-Lock's most popular key blanks. Offered in both single and double sided versions, the ALL-Lock VATS key incorporates a resistor encased within the head of the key blank. The entrapped resistor design creates a key that is highly resistant to damage, and eliminates the possibility of a pellet falling out of the key blade. The specially designed contacts of the key make positive and continual contact with the VATS ignition to assure no-fault starting. ALL-Lock VATS keys meet or exceed GM standards for VATS keys and come with a limited lifetime guarantee.



STRATTEC Automotive Locks

STRATTEC is a leading manufacturer of automotive locks and keys for North America's largest automotive companies like GM, Ford, Chrysler and Mitsubishi. Developing and manufacturing automotive lock technologies such as Pass-Key, Passlock and PATS, STRATTEC quality sets the after-market industry standard. With extensive aftermarket service and support, STRATTEC leads the industry with quality parts, training, information and support materials for locksmiths. Support includes local, regional and national training, ongoing service bulletins, the Professional's Choice catalog, and annual Lock and Key Catalogs.

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DEADBOLTS & KNOBLOCKS

Reader's Choice Awards

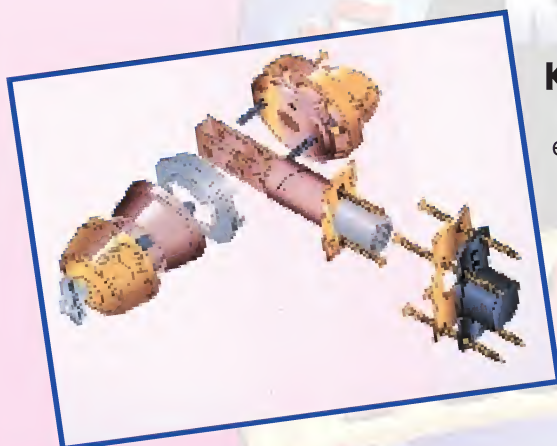


Arrow E60 Series Deadbolt

The Arrow E60 Series deadbolt is designed and manufactured for durability, security and to meet the requirements of Grade 2 hardware. The deadbolt meets the demands of residential and commercial applications where a 1-inch solid steel deadbolt, 1/4 inch steel thru bolts and solid brass cylinder are needed. The unit also features a security strike and interchangeable cores. Solid brass cylinders feature the Arrow "A" keyway, drilled for six pins, pinned to five for stock, six pin for masterkey systems.

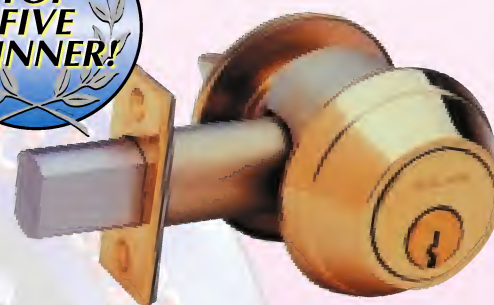
Schlage's B660 Deadbolt

The new super-strong B660 deadbolt lock was named a Consumer Digest "Best Buy." The Schlage B660, shown here in a satin chromium-plated finish, was chosen as the Best Buy deadbolt in the midrange price category; that category denotes products that offer "many popular features and good performance" priced below the most expensive lines. Schlage's B-Series heavy-duty deadbolts were designed to provide state-of-the-art primary an auxiliary lock protection for commercial, institutional and industrial applications.



Kwikset Titan

Kwikset's Grade 2 Titan deadbolts feature an extra large interior turnpiece for easier locking and unlocking. The deadbolt achieves ANSI A156.2 Grade 2 rating, the highest residential grade possible, and carries a full 50-year mechanical and 10-year finish warranty. Compatible with Kwikset's 5-pin keying system, Titan features a heavy gauge strike with extra long 3-inch screws to fit most doors.



DOOR & LOCK REINFORCERS

Reader's Choice Awards



M.A.G. Door Reinforcers

M.A.G.'s complete line of Door Reinforcer Locks are excellent ways to create a strong "barrier" against burglary in homes, commercial property and hotels.

M.A.G.'s Door Reinforcers strengthen the door and lock to make the door as strong as the lock to prevent kick-ins. For a door that's been kicked-in, the Door Reinforcers will save you the cost of a new door by covering the broken section and re-installing the lock.

For unique applications, M.A.G. Door Reinforcers can be customized to any size backset, door thickness, hole bore or for use with electronic locks and deadbolts.



DOOR CLOSERS

Reader's Choice Awards

LCN Introduces New Commercial Closers

LCN has introduced a new line of door closers designed and priced for commercial applications. The 1520, 1070 and 320 series are all non-handed for right and left handed swinging doors. The 1520 and 1070 series have adjustable closing power from size 1 thru size 4, mount on the pull side, push side and parallel arm and have tested to over 2 million cycles. All three series are ideal for locksmiths and glass contractors involved in retail, multiple housing, hotels/motels and other installations where architectural grade closers are not called for.



Norton Introduces Barrier-Free Door Closer

Norton's Series 1601/ 1601BF door closers combine rugged durability, optimum control of swinging doors, and a complete range of spring power adjustment. Hydraulic control and spring power adjustments are easily made right at the door.

These features help achieve the opening force requirements of the Americans with Disabilities Act (A.D.A.), ANSI 117.1 National Handicap Codes, as well as the industry's most demanding performance criteria, ANSI 156.4, Grade 1.

Most 1601/ 1601BF closers are tri-packed for regular, parallel arm, or top jamb mounting, and are non-handed so they will provide excellent control on virtually all applications right out of the box.

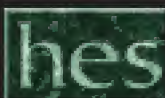


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ELECTRIC STRIKES

Reader's Choice Awards



Rofu 1430/3430 Electric Strike

The series 1430/3430 and 1440/3440 electric strikes make it possible to complete metal frame installation without having to cut a good portion of the frame away. The fail secure model 1430 (fail safe model 3430) is specifically designed to work with Sargent, Schlage and Yale mortise locks. The fail secure model 1440 (fail safe model 3440) works with all other model mortise locks. The strikes are available in standard voltages and faceplates are made of stainless steel.



Adams Rite Electric Strikes

Adams Rite is proud to have received the Reader's Choice Award for our electric strikes. It has been our goal for the past 100 years to make solid door hardware that is durable and dependable. To that end, our latest generation of strikes are compatible with latches from virtually all top manufacturers and are designed to make installation faster and more flexible. Thanks to a stainless steel blocking mechanism, these strikes have been tested to one million cycles, have a one ton jaw strength and are UL Listed for burglary resistance. Other features include a field-reversible option for fail-safe / secure and all of our strikes feature a low current draw.



H.E.S. 1003 Strikes

This strike is one of the most versatile electric strikes available today. The 1003 series incorporates 23 interchangeable models and is optionally available with the new SMART-Pac™ in-line voltage controller and a variety of plug-in components to meet all of your security needs. The 1003 series is backed by an unprecedented 5 year warranty.

ELECTRO-MAGNETIC LOCKS

Reader's Choice Awards

SuperMag™ From Locknetics Security Engineering

The SuperMag direct-pull magnetic lock provides 2,000 pounds of holding force in a standard-sized housing. A modular finish plate design offers an array of architectural finishes. To select the appropriate finish, the finish plate slides into the extruded architectural housing.

The SuperMag is available for single or pairs of doors, either in-swinging or out-swinging. With dual voltage (12/24VDC), modular circuit boards, the SuperMag supports a range of options, including: door status monitor; magnetic bond sensor; rectifier for AC operation; a PowerMiser feature; adjustable time delay and anti-tamper switch.



Securitron's Family Of Magnalock® Products

Securitron is proud to be selected an industry leader based on surveys conducted in two leading Security industry trade publications. For over 20 years, Securitron has been providing quality electromagnet locking solutions for "no moving parts" physical security/ safety locking solutions. Innovations include the first "E" profile lock, first instant release/ electronic noise elimination circuit, first weatherproof lock for use in outdoor situations, just to name a few.

The Magnalock® line currently includes the Model 32 with 600 lbs. of traffic control holding force, the Model 62 with 1200 lbs. of security holding force and the NEW Model 82, with 1800 lbs. of high security holding force.

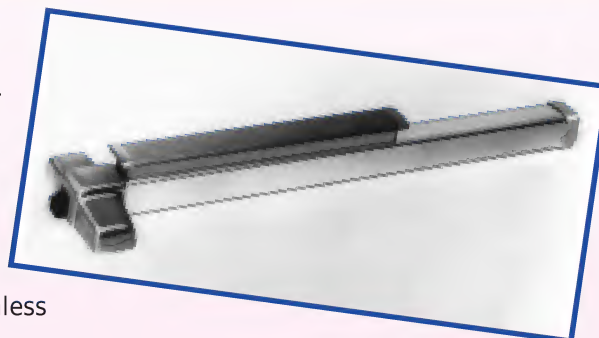


EXIT/PANIC DEVICES

Reader's Choice Awards

Von Duprin Series 98/99 Touchbar Exit And Fire Devices

Von Duprin Series 98/99 exit and fire devices combine modern touchbar styling with the durability needed for heavy traffic installations. Wide variety of configurations available includes rim (shown), mortise lock, surface and concealed vertical rod mountings. Options and accessories include electric or pneumatic latch retraction, signal switch, request-to-exit, latchbolt monitor, electric mortise lock, electric device, exit alarm kit, and glass bead conversion kit. Available as UL-listed Panic Hardware or Fire Exit Hardware, as well as similar Series 900, fully encased in high-grade stainless steel.



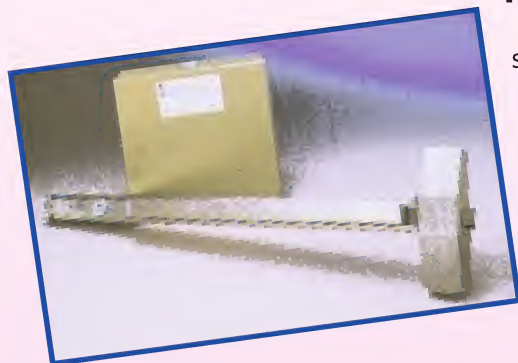
NT Monarch's Delayed Egress Device

The NT Monarch DE 18 device provides control of unauthorized exits in high security areas, yet releases immediately in the event of a power failure.

An essential feature of the DE 18 is its 15 second time delay for egress. If the pushbar is depressed for 3 seconds, the exit device is activated, sounding an alarm. Twelve seconds later, the pushbar will retract, allowing anyone to pass through the door.

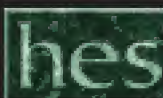
Other features include: color coded lights to indicate the status of the device, a simple key switch and standard remote monitoring of touchpad depression.

As an ANSI, NFPA and Grade One approved product, the delayed egress system is uniquely suited for schools, airports, shopping malls and health care facilities.



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HIGH SECURITY CYLINDERS

Reader's Choice Awards

Schlage Primus

Pictured is Schlage Lock Company's Primus high security system, consisting of a special dual-locking cylinder that has two sets of combining pins triggered by one key. The Primus key, which only Schlage is patented to produce, is unique in that it has both top and side "cuts" (specially engraved in the side of the key). The top cuts allow the Primus key to open standard locks. The side cuts allow the key holder to open Primus cylinder locks. Primus cylinders are available in standard or U.L. listed (drill-resistant).



Medeco Locks

Medeco thanks all of *The National Locksmith* readers for voting our cylinders among the High Security Cylinders of the year. This is a great honor for a manufacturer and we are pleased with the positive feedback.

Our patented products and programs have evolved since 1968, ever changing to meet customer needs. Medeco has always been dedicated to quality, security integrity and patented key control. It is our goal to continue to support the locksmith channel with high quality products and business programs for many years to come.



ASSA V-10

The introduction of their new V-10 cylinder is the latest in high security. Designed with features to protect against forced entry, new Twin V-10 has two utility patents pending, protecting the blanks against unauthorized duplication. The new V-10 is truly on the cutting edge of high security, not only from a design perspective, but the patent and keying capabilities are the best in the industry. The Twin V-10 is UL 437 listed to resist picking, drilling and prying. The hardened steel inserts, mushroom spooled pin tumblers protect the V-10 from all types of tampering.



KEYBLANKS

Reader's Choice Awards

Original Ford Keys By Ilco

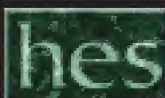
Each original Ford key blank from Ilco Unican is engineered and manufactured to meet or exceed standards set by the automotive industry. This blend of high-tech methods, strict quality standards and the numerous years of experience has led to a licensed arrangement with Ford. The line has both metal and plastic head keys.



Silca's Ultralite®

Silca's alloy aluminum Ultralite® key blanks are available in five brilliant colors, including: Vivid Green, Startling Black, Sky Blue, Shocking Red and Vibrating violet. Packed in polybags of ten of each color in boxes of fifty, your customers will absolutely love the beautiful, durable colors. Ultralite® keys are great for identification. They are light in weight, weighing about one third of a brass key. They are less bulky and duplicate quite easily. Silca's Ultralite® Assortment UL1 contains five each of the 45 most popular different references in the Ultralite® line...in each of the arresting colors.





Continued from page 58

KEYBLANKS (continued)

Reader's Choice Awards



Jet's Silver Line Key

Jet's Silver Line keys are guaranteed to be consistently superior to the original manufacturers productions. Now with the recent addition of Best's composite DE and JK keyways along with 13 new Corbin Russwin keys, Jet offers close to 150 popular blanks for commercial and safe deposit locks. Jet is proud to bring to the locksmith the largest selection of nickel silver keys, simulated in design to original equipment and guaranteed in writing. The numbering scheme is similar to originals with few exceptions.

KEY MACHINES

Reader's Choice Awards

Ilco KD50C Lever Operated Duplicator

The KD50C key machine from Ilco Unican Corp. cuts most cylinder keys within five seconds. Lever operated, the unit is equipped with reversible vise jaws that securely clamp residential, padlock and automotive keys without adapters. A cobalt steel cutter ensures a smooth cut with accuracy to 10 key generations and beyond.



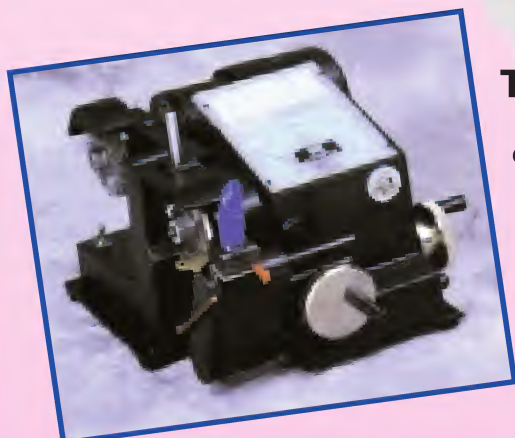
Silca's Delta Key Machines

Silca's Delta line of key machines offer big quality in small, affordable packages. Four different models are available, including the Automatic, Semi-Automatic, Manual and Flat Steel. All Delta models come with four-way jaws, micro point adjustment and a small 8.5" (D) x 14.75" (W) x 10" (H) footprint. The Delta key machines are well suited for either the locksmith's shop bench or in the van.



Framon's #2 Code Machine

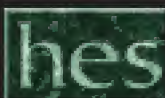
Framon's #2 Code Machine has been a locksmith favorite for over 25 years. The #2 comes packaged with everything you need to cut almost any cylinder key in use today. The machine utilizes manufacturer's depth and space information to make keys accurate to .0005" in about 30 seconds. Included with the machine at time of purchase are four cutters, five spacing blocks, dial calipers, a demonstration video, and Framon's Depth & Space Manual. The #2 can even cut Medeco commercial and Bi-Axial keys right out of the box! Contact your distributor or Framon for more information.



The Blitz By HPC

The Blitz™ is HPC's upgraded version of the 1200CM Code Machine. It works exactly the same as the 1200CM, but has several added features. Both the depth and spacing shafts have fewer threads per inch, which means that substantially less revolutions are needed to achieve the full range of travel. Other added features include a flip gauge that is more visible and easier to grasp. Plus, the Blitz Code Machine is equipped with HPC's Softie™ deburring brush with a safety shield. This revolutionary code milling machine has made all others obsolete and is now the "Standard of the Industry".

Continued on page 62



Continued from page 60

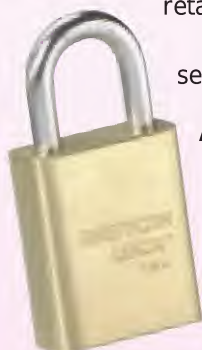
PADLOCKS

Reader's Choice Awards

ABUS New Brass IC Core Industrial Padlock

ABUS Lock Company introduces the new 83IC/45 Interchangeable Core Brass Padlock, which features the exclusive "Z" Bar. The all brass body precision manufactured 83IC/45 also features stainless steel double locking balls and springs to resist the most severe environmental punishment. The exclusive "Z" bar provides easy change capability from key retaining to non key retaining without tools.

The 83IC/45 interchangeable Core Padlock also features an emergency security breach lock out feature.



American Lock's® Multi-Cylinder System

American Lock's Multi-Cylinder system provides the strength needed to upgrade existing padlocks or to work hand-in-hand with proven door hardware cylinders. This extremely versatile system offers 22 different product selections, including 1-3/4", 2" and 2-1/4" body widths, as well as shackles in three lengths.

Master Lock Pro Series™ Commercial/Industrial Padlocks

Master Lock offers the Pro Series™ line of rekeyable padlocks designed specifically for industrial and commercial use.

Master Pro Series padlocks feature:

Shackles of extra-tough hardened BORON alloy steel.

Dual steel ball-bearing locking to protect shackles against pulling and prying.

Massive, laminated steel lock bodies which provide added strength against twisting and hammering.

Cylinders with special spool pins.

Pro Series padlocks are protected with tough thermoplastic covers and feature flow-through debris channels that keep contaminants from jamming the lock mechanisms.



PATIO DOOR LOCKS

Reader's Choice Awards

M.A.G.'s Patio Door Lock

M.A.G.'s complete line of Patio Door Locks are excellent ways to create a strong "barrier" against burglary in homes, commercial property and hotels.

M.A.G.'s Patio Door Locks are the perfect replacement for patio door locks that don't hold up with high usage or exposure to severe weather.

Designed to meet the high standards of Locksmiths, M.A.G.'s complete line features keyed and non-keyed versions designed to fit doors 7/8" to 1 1/4".



Octopod by Major Manufacturing

The Octopod surface mounted lock by Major Manufacturing is a versatile locking device with many applications. Being able to mount on door rails as narrow as 1-5/8" makes it an ideal patio door lock. The Octopod uses a standard 1-1/8" mortise cylinder that allows it to be keyed to other locks in a system and each lock is supplied with Phillips and one way screws. The standard lock is equipped with a 9" locking rod with longer rods and a 5202 double rod model available as options. Available finishes include aluminum, Duranodic and white powdercoat as well as bright chrome and brass plate.



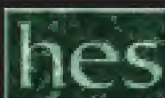
PUSH BUTTON LOCKS

Reader's Choice Awards

Simplex Access Controls Series 1000

This line of push-button locks is a fully mechanical lock designed where keyless access control is required. The mechanical design eliminates the need for batteries or running wire assuring trouble free performance and care free durability. Available in a knob as well as lever design. The new Series LP1000 (lever/panic) is designed for new or existing surface mounted exit/panic devices.





SAFELOCKS

Reader's Choice Awards

Sargent & Greenleaf 6120 Electronic Lock

Restaurants, retail stores and banks are upgrading safes with Sargent & Greenleaf 6120 Series electronic combination locks for management, security, convenience and reliability. Locks have individual re-programmable access codes and supervisor/employee modes, denying off-hour and unauthorized entry. A 15 minute keypad lockout engages following four incorrect combination attempts. Two keypad-accessible 9-volt alkaline batteries power the two-year warranty locks for up to 8,000 cycles.



SAFES

Reader's Choice Awards

Amsec's BF Series

Amsec is introducing a new attractive granite finish for the "BF" series Fire/ Burglary safes. To complement the new finish the interior is now smokey-gray plush velour featuring the same great features:



- U.L. Listed Class 350°F, One-Hour Fire Label and Residential Security Container Burglary label.
- B-rated heavy duty construction.
- 3-1/2" thick door consisting of 1/2" plate steel with a unique proprietary fire and burglary resistant material.
- 2" thick body consisting of 1/8" outer and inner steel plates enclosing a unique proprietary fire and burglary resistant material.
- Three massive 1" solid steel chrome-plated locking bolts.
- 1/4" carburized hardplate.

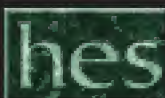
Major

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SAFES (continued)

Reader's Choice Awards

The Meilink RSC Series

The Meilink Safe Company introduced its first, and still the only, dual rated safes with the Gibraltar in 1987, which carries the U.L. TL-30 rating and the U.L. one or half hour class 350 fire rating. These units were followed with the commercial record safes with the U.L. Residential Security Container burglary label as well as the U.L. two hour fire label.

The "RSC" series, includes a U.L. One Hour Fire Label with the U.L. Residential Security Container Burglary Label with five 1" bolts (three horizontal, two vertical). This series is available in six sizes, ranging from the popular RSC 1612 up to the RSC 5428.



Gardall BF Series Safes

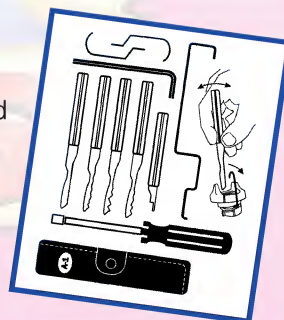
For the third consecutive year Gardall Safe Corporation is pleased to be honored with a Reader's Choice Award. Gardall is proud to supply premium quality safes to locksmith/safe dealers nationwide. The BF series provides burglary and fire protection in residential or commercial applications. Available in three sizes with a 1/2 plate steel door and 1/8 body, it is heavier than other comparable safes on the market. BF safes also have three 1" diameter chrome plated bolts and a bolt down hole centered in the base for added security. Like all Gardall fire safes it carries our Lifetime Replacement Warranty.

TOOLS

Reader's Choice Awards

A-1's Ignition Pick & Decoding System For GM 10-Cut

A-1's Ignition Pick & Decoding System for GM 10-cut ignitions (including 'Top Hat') is fast and friendly. Using a special tension tool and one of four rocker picks, the ignition can be picked in seconds. Once picked, specialized tools are used to release the ignition from the column. Once released, the ignition can be decoded with the decoding tool. The entire process takes only a few minutes. Includes two tension tools, four rocker picks, and release tool - all in a leather case. Complete with instruction manual for servicing GM 10-cut ignitions.



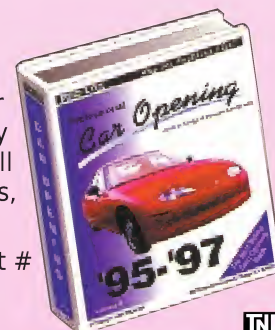
HPC's Pocket Sized Decoder

HPC's handy, pocket sized decoder kit determines the original factory depths of most popular domestic pin and disc tumbler cylinders and automotive keys. It is ideally suited for giving the correct bottom pin size when re-keying new or worn cylinders. It is also an effective time saver when used along with the popular, precision color pin assortment or when using original pins. Simply insert the correct information card into the top slot of the decoder. Lowering the depth pin into each cut, from bow to tip, will indicate the correct depths in the window at the top. Each of the 112 included information cards also lists the correct factory depths and space specifications.

PRO-LOK'S Car Opening Volume 3

PRO-LOK's latest car opening information, printed in full color is now available in volume 3 of our Car Opening Manual series. This manual is filled with important technical information and very specific data about each vehicle. The page format has been recognized for excellence. Three clear, full color photos on each page, step-by-step opening methods, replacement lock and key blank numbers, picking direction, tool illustration, code series, code card, code book page reference and much more.

Available in compact page size (5.5" X 8.5") part #M ACBVOL3 or large page size (8.5" X 11") part #MAAEUP97.



What Should I Charge?



One of the perpetual questions that constantly arises when talking about a service related business — such as locksmithing — is that of pricing. Many don't know what to charge for a particular service or how to base their pricing structure.

Recently, *The National Locksmith's* E-mail list was buzzing on the topic of what to charge for a deadbolt installation. Since this subject was of such great interest to the locksmiths on our free E-mail list, we'll share some of the more interesting responses to the question here in the magazine.

The following deadbolt installation example given, is based on the use of a double cylinder deadbolt. Although many may be aware, we feel it necessary to inform all that in many states, it is against building and fire codes to install a double cylinder deadbolt on an egressing door. I would suggest that you check the local building codes and with the local Fire Marshall as to the requirements in your particular city and state. As a general rule, double cylinder deadbolts are not permitted on an egressing door even if the door and surrounding frame is glass.

By the way, if you are interested in getting on our E-mail list, simply send an E-mail requesting to join the list. Send your request to NATLLOCK@AOL.COM, and be sure to include your subscriber number which is found on your magazine mailing label.

Q: I am trying to figure out what to charge for a name brand double cylinder deadbolt, which costs me \$29.35, plus the installation and service charge. This is what I currently charge a customer for such a service:

Deadbolt:	\$44.00
Labor to install (20 minute average):	\$5.00
Service Call:	\$30.00
Tax:	\$2.75
Total:	\$81.75

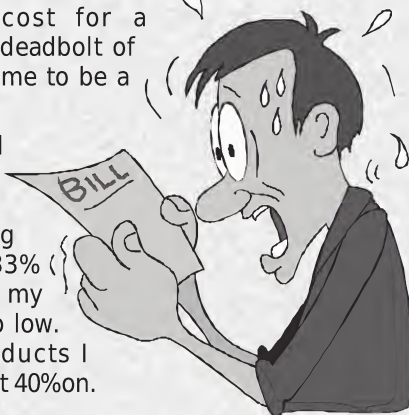
Please let me know what you charge for a similar deadbolt/ installation service and what your price structure or formula is.

Michael S. Rolling
rollins@soltec.net

A: Just a few comments on your prices.

I suggest that you shop the distributors for prices. You may find that you can find that same product at another distributor for less money. If not, you may be able to find a comparable product for less money. Your cost for a double cylinder deadbolt of \$29.35 seems to me to be a bit high.

I can't afford less than a 40% markup. Your working with about a 33% markup - again in my opinion much too low. I won't sell products I can't make at least 40% on.



I don't know how you do it, but I can't get my tools out of the van and then back in again, along with writing an invoice in less than 20 minutes. I think you are underestimating your hours (I used to be a cost engineer). Even if you are not underestimating your time, you are still only charging \$15.00/hour! By the time you subtract your expenses, phone, advertising, etc., you are making less than that.

As far as a formula is concerned, here's what I do. First I decide how much I want to make. I also look at how many billable hours a week I can project, and arrive at a 'workable' hourly rate for me.

Next I look at all my expenses and divide the total expenses per month by my projected billable hours. Notice I said "billable hours." By dividing monthly expenses by monthly billable hours, I then get an 'overhead rate' per hour. Adding this to my 'salary' gives me the hourly figure I charge.

For example: if I want to make \$60,000 a year, that equals \$5000.00 a month. Let's say I average 32 billable hours a week. 32 times 4-1/3 (average weeks in a month) = 138.56 billable hours a month. \$5000.00 divided by 138 = \$36.00 an hour (approx.) for my labor.

Now I have to add my expenses on top of that. Let's say expenses are \$1400.00 a month. \$1400.00 divided by 138 = \$10.14, which is my overhead rate.

I add the overhead rate of \$10.14 to my salary (\$36.00) and the total is \$46.14, which I

Continued on page 69



Continued from page 66

will round to \$46.00, or \$46.50. That is the rate I charge for my time.

Now, given your 20 minutes to install a deadbolt, if that is in fact an accurate number, you should be charging at 20 minutes (.33 an hour) x \$46.00 = \$15.32.

I can't install an double cylinder deadbolt in 20 minutes, so I charge more then that. Hope this helps.

Chuck Donnelly
cdonnelly@mhv.net

A: Do you really only charge \$5.00 to drill the hole for a deadbolt, or is this with an existing hole? If I drill the hole in a residential door with a standard frame, it's \$15.00. If I install a lock on a commercial door with a steel frame and concrete fill, I charge \$35.00.

You say that you take 20 minutes on average to install a double cylinder deadbolt. Based on a \$45 to \$55 labor rate, that would be a minimum of \$15.00 for 20 minutes. It sounds like your labor rate is way under priced.

Your service call rate is a good average. Your pricing on the deadbolt, with your cost at \$29.35 should be no less than \$44.00 so you are on that. That is based on a minimum 1-1/2 times the cost to make your 20% minimum. You cannot operate on less than a 20% markup.

Sounds like you need to look at your labor rate.
Lee Griggs
lgriggs@msegroupp.com

A: Five dollars to install a deadbolt? At twenty minutes, that's only \$15 an hour labor rate. Is that really all that you feel you are worth? I don't even know you and I think you're worth more than that!

Here's an example of what I charge:

Deadbolt:	\$37
Install Deadbolt:	\$25
Sales Tax (5%):	\$ 1.85
Service Charge:	\$40
Total:	\$103.85

As you can see, I am charging more than you and I am using a less expensive lock.

Bob De Weese, CPL
bearlock@erols.com

A: In my shop we charge \$18.50 to drill a wood door, \$22.50 for light

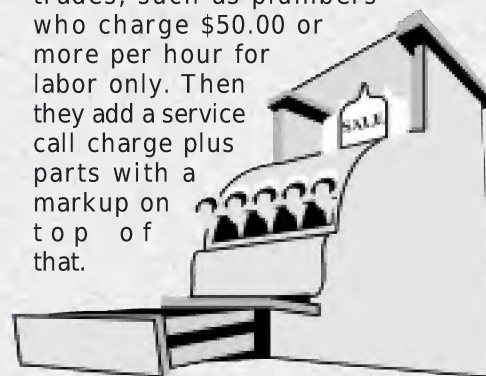
metal doors and \$26.00 if the door is 18 gauge steel with a masonry prep in the frame. The lock would be \$58.50 and a service call is \$32.50.

Sometimes if we need to do three or more installs on the same house and all the locks were bought from us, we will give the first hole with the service call.

Ron Scott
RScott2525

A: The only change I would make in your pricing structure is your installation price. You're selling your expertise way too short! I would charge \$20.00.

Your labor per hour should be more consistent with other building trades, such as plumbers who charge \$50.00 or more per hour for labor only. Then they add a service call charge plus parts with a markup on top of that.



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Whatever area of the country you live in, labor must be cheap.

Joe at Locke's Locksmith

Astraes

A: Ouch! Is your labor rate \$15.00 per hour? I don't know where you are located, but this seems very low. In my area, northern California, I charge \$50.00 per hour for this type of work, higher for high security automotive work.

Your service charge of \$30.00 is the same as I charge within my local area.

What I would charge for the same

service you are providing is: \$81.75

Jim Parrie

locktech@qualityservice.com

A: I would like to share my feelings on the pricing structure for the service you are providing.

Deadbolt- \$29.35

Markup - \$14.65

Markup percent -49%

Many shops get 80% to 100% markup on products, but this is totally up to you.

Labor- 5.00 for 20 minutes = 15.00 per hour.

To see if this is a fair rate, you have to go through a fairly detailed computation. To do so you have to add all expenses for running your shop (rent, telephone, business insurance, electric, property taxes and wages. Do not add any of your truck expenses here.

Now figure how many man-hours you — and any employees — will work in a year. Now divide the cost of business by the number of man/ hours and you get your cost per hour.

Anything you charge over this figure is profit (or overcharge), anything you charge under this figure is loss (what you are paying the customer to work for them). In my opinion, if you run a shop it would be very hard to get this figure to 15.00 per hour.

- The Service Call -

Take the cost of your truck (which is insurance, fuel, tires, repairs, and the prorated cost of the truck per year) and add the hourly labor rate for the time of driving to and from the job site.

Now figure the number of calls you go on and divide the cost by the number of trips and you come up with the cost per trip. A \$30.00 service call may be way under your cost or way above your cost.

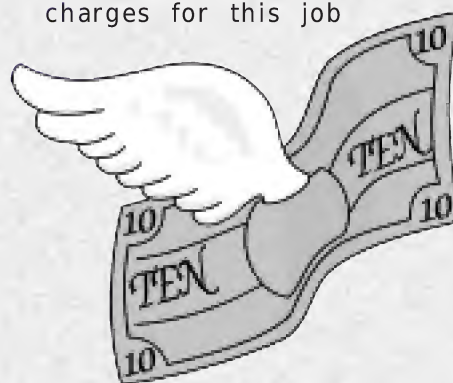
If you need more help, *The National Locksmith*(TNL), put out a good book called *The Flat Rate Manual*, a few years ago. The book takes you step-by-step through the process of figuring out your hourly rate. If I get enough requests, I would set up a spreadsheet template to figure this out and post it on-line.

Just remember, if you charge less than it costs you to do the work, you are losing money, and that ain't good!

TimCobb

tcobb@neosoft.com

A: I would consider your charges for this job

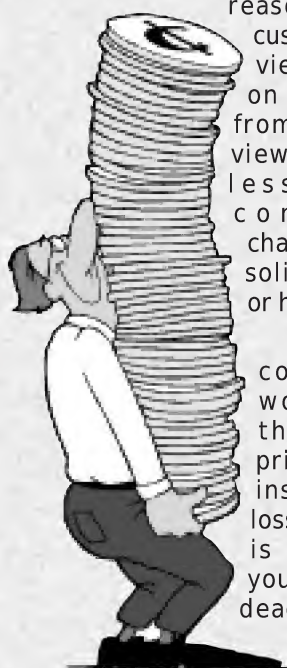


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reasonable from a customer's point of view, and a little on the low side from my point of view. How much less are your competitors charging? Are they solid competitors or hacks?

If they are solid competitors, I would assume that they are pricing deadbolt installations as a loss leader. If this is the case, and you like to install deadbolts, you might consider doing the

same. I don't like installing deadbolts, so I don't get down and dirty on the pricing.

Here are some ideas if you want to go the loss leader route:

Base your deadbolt price on a single sided lock, factory keyed in a 626 chrome finish.

Base your installation price on a wood door with a wood jamb.

To turn a loss leader into a profit provider:

Charge more for a double sided lock.

Charge more for a finish other than 626 chrome.

Charge more for a metal door installation.

Charge to key lock to existing key.

Sell accessories such as a MAG heavy duty strike or wrap around plate. Sell a kick plate, door viewer or chain door guards.

That's how you make money with a loss leader. Loss leaders are designed to get the customer into the door, the rest is up to you. Happy trails.

Jim Parrie, CRL

locktech@qualityservice.com

A: When installing a deadbolt, I have timed myself a few times. On a wood door it takes me an average of 30 minutes a door. I charge a \$30.00 per hour labor rate, so that figures to \$15.00 for the installation.

I add \$2.50 for the wear and tear on my hole saws and drills. This brings the labor rate up to \$17.50.

If I install a knoblock as well, I double the charge. Labor rate is now \$35.00 per door.

Add in a service call charge plus the cost for the lock and I'm a little ahead of the game. **John Hornung**
locksmth@dialnet.net

Since this particular issue attracted so much attention on the E-mail list, we went the extra step of surveying a number of locksmiths on their pricing structure for deadbolt installation, and the results follow. Pricing is a complicated issue because you have to take into account your cost of materials,

the amount of labor required, the trip to the job, plus competition as well. We hope that this article has given you some insight into what other locksmiths around the country do to create their own price strategy.

-Deadbolt Installation Pricing Survey -

Deadbolt: \$41.09

Average Labor Charge: \$23.35

Average Service Charge: \$40.50

Total Charge for Installation: \$104.94. **TNL**

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Painless Ways to \$ave

by Louis Brown



Money! We all know about it, earn it, and spend it. It drives us nuts! We borrow from Peter to pay Paul. Always trying to earn enough to pay the bills and still have enough to have some fun. It is the never ending battle!

I once felt that if I simply earned more, I would have more. Something is wrong with that theory. I earned more by working harder. That meant more costly supplies, more wear and tear on the van and tools, more dirty uniforms, less time for the family, and still no money in the bank! Regardless of how much I earned, I still seemed to have just enough to get by!

I have spent 25 years as a locksmith and have grown, without intention, into a corner or life that professes to be the "age of wisdom." There is an English proverb that says, "It is easy to be wise after the event." My event started when I was about 25, and now 25 years later at 50 I can say "I have seen the light!" Ecclesiastics. I. 18 says "In much wisdom is much grief" There was the light and BAM B! There was the grief!

The philosophy of "Don't save your money, earn more of it" stinks! It's like telling yourself "Don't eat less, exercise more!" Give me a break! My appetite was enormous! If I followed that advice, my belly would

grow faster than I could run it off. I could see me now. Prancing around the block in my Reeboks with a sandwich in one hand and a diet soda in the other. My gut would grow so fast that my knees would be smacking my bellybutton and blubber would be flying everywhere. Your local locksmith in action!

The answer to this riddle is simple. You must do both! You must eat less (diet) so that you consume less calories. You are depriving the body of stuff to get fat on! You exercise to change your metabolism. Your body is now consuming more energy and staying leaner. We now have the mean, lean locksmithing machine.

Looking at money is the same thing. You must do both! You may say, "I already put in 18 hours a day, give me a break!" I will! Instead of coming to work and entering the day cold, do that Boy Scout thing. Be prepared! Prepare the locks for the next customer the evening before. Cut the keys for the master key system and work up the charts the evening before. Prepare and restock your vehicle the evening before. This way when you arrive at work in the morning, you are ready to hit the trail with gusto.

You will find that with a little customer relations, you can convince

the regular customer into calling you the afternoon before they want the job done.

A prepared day will result in doing almost two days worth of work in one. Now for us older guys and dolls, we will probably need the day after to recuperate. This does not speak of the instant service or the emergency service call. You will have to deal with that as it comes, which way will give you the higher profit?

Saving is the other area. By organizing your workload, you have already made a step in savings. Simply by being organized you have doubled your profit potential. Instead of having to work 7 days this week, you have just bought a day off. Do another day like this and you can have Saturday off too! Yes, the light is starting to dawn!

Saving is difficult. It takes a hard honest effort to work. You have to scale down. This may be simply not wasting too much time on one job. Talk with the customer to make them feel good and important. Time is money, right? Get rid of the nonessentials! Remember that just because you have a job doesn't mean that you must go immediately. Emergencies are a must situation, but many jobs can wait for an hour or be scheduled into the next day. This



way you can plan and not waste your precious fuel and time.

You may also decide to do the grocery shopping or do other stops, realizing that these essentials are on the way. Doing these tasks will save someone else in the family from using personal vehicles, gas, and their time. They can do something else for the benefit of the family or business.

You will also want to make things last longer. This means your vehicle and your tools. Take care of things by keeping the maintenance up to snuff.

Saving may be something small. The other day at a garage sale, I spotted a fine looking 3/4" wood working chisel. My current one had been sharpened for about the last time. I paid some fine compliments and 10 cents for it. My old chisel became a hole punch and the new one was sharpened and it entered my lock installation tool box.

When you are fortunate and find a surplus of real money before you, discipline yourself into making the money serve you in some form of investment. What this is all about is reaching and maintaining the highest

quality of life that you can find with what you earn. It is a balance between earning, spending, and saving.

Painless Ways to Save

1. Add other errands to your service calls.
2. Do the simple vehicle repairs and maintenance yourself.
3. Prepare your next day the evening before.
4. Keep your tools and work bench organized (finding your tools quickly results in a faster job completion).
5. Keep learning - profit comes by knowing the answer.
6. Each year check out the cost of doing business with your bank. Some accounts come with small but FREE checks. Change your system and make the free work for you. Replacements also cost less! Look into what other charges can be reduced. Now-a-days without good credit, it doesn't matter who you know! Loans are based on your collateral, payment history, and how far extended you are on other payments.

7. Tear down old locks and recycle the brass. This gives me about \$100/ quarter.

8. Prepare a daily lunch. You'll eat healthier, and cheaper, and a quiet place to eat it.

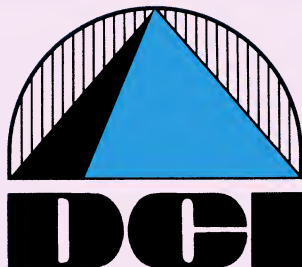
9. If you can group your service calls, do those that are close to one another in a trip.

10. Recycle the envelopes and check stubs that arrive with all those lovely checks. I use these for telephone messages and for taking service calls. It's cheap.

11. Make your next order big enough for it to be freight free. Sell the product for the same price as normal and reinvest the savings.

12. Each year evaluate your situation with your suppliers. Know who has the lowest requirements for minimum orders, highest freight and handling costs, highest/ lowest COD charges, highest interests charges on unpaid balances, lowest minimums for supplier paid freight, etc.

13. Plan to refuel your vehicle at the lowest cost service or convenience center, and do it while on your service rounds. Don't make a special trip. **TNL**



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BUSINESS BRIEFS

M.A.G. Security Offers Special Premium

M.A.G. Security has initiated an exciting direct mail campaign to help build brand preference among the nation's locksmiths. The promotion offers a free multi-purpose BuckTool™ by Buck Knives as a special incentive.



Interested locksmiths need to purchase a specified amount of M.A.G. door and window security reinforcement products to obtain the popular tool. The promotion concludes on July 31, 1997.

For requirements and other details call: 714-891-5100.

Locknetics Launches On-Line Website

Locknetics Security Engineering recently launched a website on the Internet. Their website can be found at <http://www.locknetics.com>.



The Locknetics website is multi-layered and provides useful information for prospective as well as

established customers. On screen "buttons" offer extensive information on products, company background information, and a "What's New" page for product release information and industry news.

For further information call: 860-584-9158.

American Lock Appointments

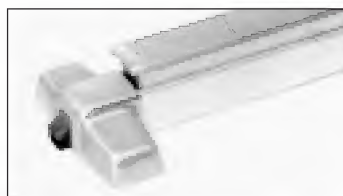
American Lock Company, has announced that Dave Anderson, former Commercial and Industrial Sales Director, has been reassigned as Product Manager. In his new role, Mr. Anderson is responsible for all aspects of product introductions in the markets.

Lou Mintzer has also joined American Lock as Sales Director for the commercial and industrial markets. In his new position, Mintzer will oversee American Lock's nationwide network of regional sales managers.

For further information call: 1-800-PADLOCK

Von Duprin 98/99 Chexit™ Devices Stocked By Security Lock

Security Lock, now inventories Von Duprin series 98/99 Chexit™ exit



CX98 Series

devices, including rim, mortise lock and concealed vertical mounting types. These non-handed devices can be used on flush and wide stile doors with 86 and 161 stock hollow metal cut-outs.

Security has also just issued a 530 page catalog, free upon request. For additional information call: 800-847-5625, or Web: <http://www.seclock.com>.

Sargent & Greenleaf Receives ISO 9002 Certification

Sargent & Greenleaf, a leader in the commercial security industry, today announces its quality system has been ISO 9002 certified.

ISO 9000 (International Organization for Standardization) is a global guideline for quality management systems. More than 90 countries accept ISO 9000 in their industries. The certification allows Sargent & Greenleaf to remain competitively strong in the U.S., as well as in highly regulated international markets, such as Germany, France and Sweden.

BiLock Maximum Security

BiLock North America, Inc. opens two new offices this year. A Midwest office has been established in Traverse City, Michigan. New Midwest Sales Manager Thomas Vander Leek, can be reached at: (616)929-2055. The second office is now open in Las Vegas. Staffed by Sales Manager Peter Boyd-Cummins, the new Las Vegas number is (702)270-4959.

LCN Earns Registration To ISO 9002 International Standard

LCN, a leading manufacturer of door control products has earned registration to the ISO 9002 International Standard from Underwriters Laboratories, Inc. (UL). Registration to the ISO 9002 Series Standards means that LCN's manufacturing facility passed UL's evaluation to one of the

international quality assurance standards of the International Organization for Standardization (ISO).

System 2 Simplifies Dealer Programming


Corby's latest product, System 2 Network version 5.1 was designed so doors, users and features could be added at any time. Additions are quick and easy, using the built-in programming keypad and 48 character Liquid Crystal Display, eliminating the need for specialized software.

The simplified programming feature has made it easy for security dealers to enter the world of access control. For information call Jeff Anthony at: 800-OK CORBY extension 133.

Raquel Habib Joins Security Lock Distributors, South

To meet the demands of rapidly expanding operations in the South, Security Lock has named Raquel Habib to an important post in their Florida Customer Service Department. Having worked in the industry for a number of years, she is experienced in the application and operation of access control hardware, including all major lines Security stocks. In addition, Ms. Habib is bi-lingual and her responsibilities will include working with customers and prospects in Latin and South America.



For additional information call: 954-972-4949. 



Auto Opening Opening The



There has been many new model introductions made for the 1997 model year. A number of the new introductions fall under the recently introduced category known as Sport Utility Vehicles. Ford Motor Company's newest entry into their extensive line of trucks and vans is the Ford Expedition. Roomy and rugged, this American made sports utility has won praise and recognition, while catching the attention of many who are looking for a comfortable vehicle with off road capabilities.

The Sport Utility Vehicle has made a huge impact on the marketplace in just the last year. The new yuppie vehicle is the Sport Utility Vehicle (SUV). A number of them will be coming your way so be prepared.

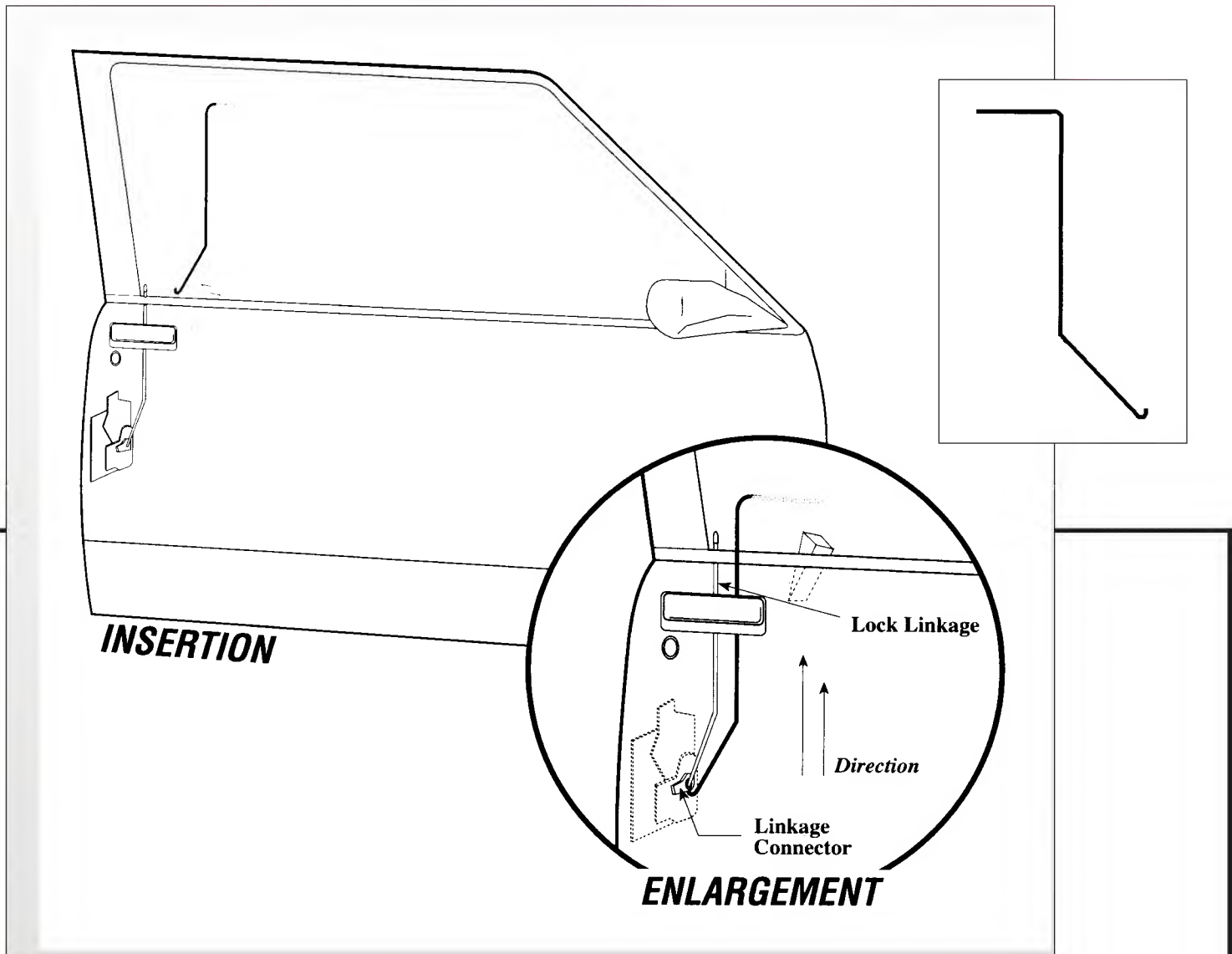
There are a couple of different ways in which to open the Ford Expedition. The method used here features the use of a tool from the High Tech Tools Model 2500 Set. The tool used is the "Redwood" tool, also known as the 1822RW.

Opening Method

Begin by inserting your strip saver and wedge on the passenger side door. The strip saver and wedge should be positioned at about the center of the door. Next, take your High Tech Tools 1822RW "Redwood" tool and insert it with the hooked end of the tool facing the rear of the vehicle, insert the tool at a slight angle into the door directly above the door handle.



Ford Expedition!



Lower the tool down the door until almost all of it is in the door except the handle. What you are attempting to attack is the linkage connector at the bell crank. The easiest way to accomplish this task is to follow the lock button linkage rod all the way down. Hook the linkage connector at the very base of the door lock rod. There is a space in the connector to fit the tool's end comfortably and enable lifting. Once the tool has hooked the linkage connector, lift the tool to unlock the door.

Alternative Opening Method

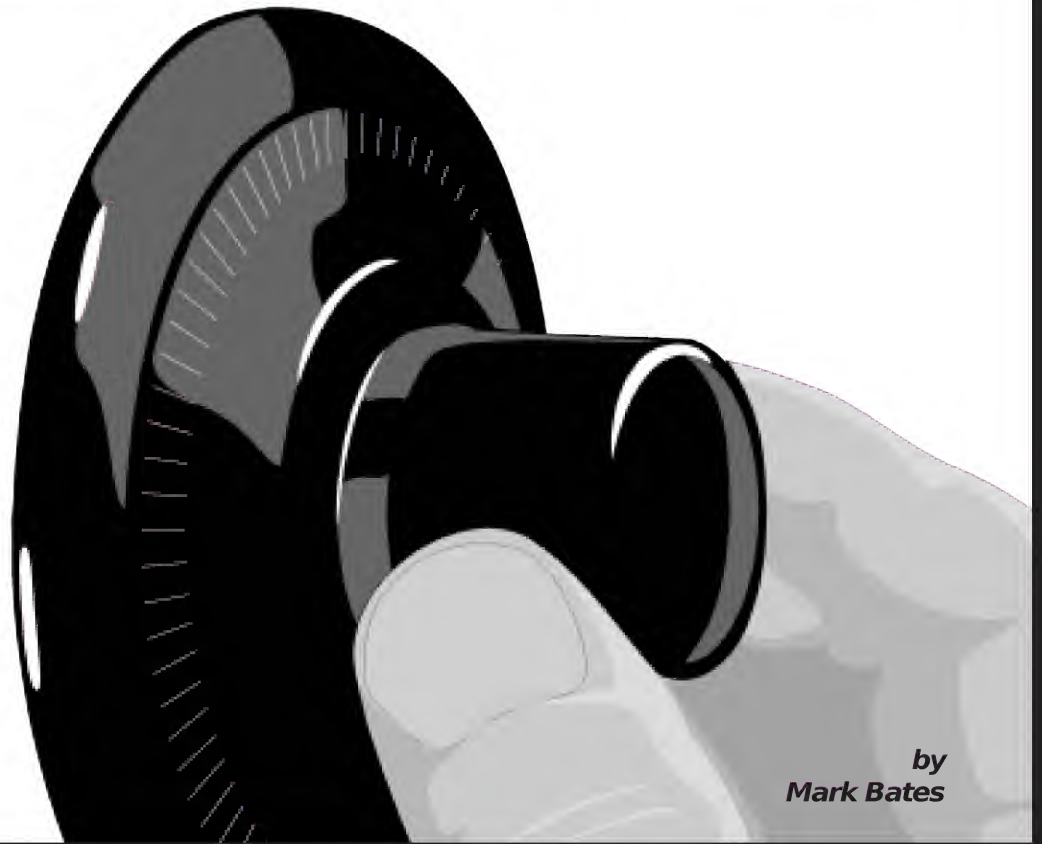
Another opening method requires the use of the High Tech Tools 1847NC tool. Insert the tool directly above the front end of the door handle. Lower the tool approximately half way down the door and twist the tool so that its hooked end can reach and grab the door lock rod directly under the door lock knob. The door lock knob is visible through the window, so use it to determine your tool target point.

Hook the door lock rod with the end of the tool. Once hooked, you will see the door lock button move. Then, simply lift the tool to unlock the door. **TNL**



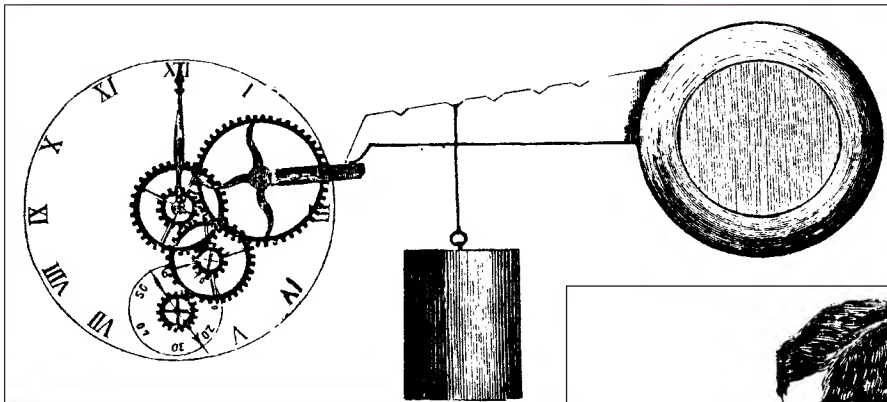
Manipulation could be defined as the craft of determining the combination of a safe lock, without damage to the lock and with no prior knowledge of the combination. Usually this is done by positioning the lock's wheels in certain configurations, then measuring the distance between the contact points with great care. I said, "usually." The fact is, a wide variety of manipulation methods have been employed over the years.

In the last Century, a common form of manipulation was to put pressure on the handle of the safe, forcing the lock's bolt inward. The fence (attached to the lever) would make quite strong contact with the wheels during this procedure. When the dial was turned the positions of the gates could be determined by measuring the distance the handle traveled with the wheels in various positions.



by
Mark Bates

Manipulation Resistant Locks



A. The micrometer manipulation aid of James Sargent.

In the 1860's James Sargent became so skilled at this type of manipulation that he regularly defeated the best locks of the time. He used a modified micrometer and a deep understanding of lock design to achieve this (see Illustration A).

A.C. Hobbs, a contemporary of Sargent's, performed similar feats with the most advanced key locks for safes.

In some instances he used special picks (Hobbs Picks) and in other instances he tried all variations of possible keys (see Illustration B). Being shrewd businessmen, both Sargent and Hobbs designed locks that even they could not open and retired as wealthy men!



B. A.C. Hobbs honing his skills as a lock picker using his specially designed Hobbs picks.

One thing that Sargent incorporated into his lock was a rotating (rather than retracting) bolt. No amount of pressure on the handle could force the bolt inward. In addition, Sargent used a large magnet positioned over the lever in an attempt to keep the fence from contacting the wheels. Other manufacturers used two-piece drive cams and similar creative designs to thwart manipulation. All of these massive



1. The Diebold 180-04 used a push/pull dial to help hide contact points.

locks were extremely expensive (Sargent's cost \$250 in 1865). The next phase in safe lock making was to produce a lock that resisted manipulation reasonably well, but would not cost the entirety of what the buyer was trying to protect!

A reasonable solution seemed to be reached by simply making locks with drive cams large enough that the fence did not ride on the wheels (except for that necessary point where the lock may be opened). Apparently few if any would-be manipulators discovered the secret to this design for some time. In the mid 1950's manipulation was "rediscovered" and once more was considered a threat to security. Mirroring the re-design frenzy of the 1860's, manufacturers devised a host of different devices attempting to create a "manipulation proof" lock. This time around, the emphasis was almost entirely on masking the contact points.

Today some locks offer little resistance — some offer a great deal. To understand this difference we have to make several assumptions. The first one is that manipulation resistance is a characteristic possessed by all safe locks. Every safe lock, regardless of design or age requires some type of "secret" information before it can be opened. Some, however, yield their secrets more easily than others. Therefore, manipulation resistance is a matter of degree since all locks

already have it. The second assumption we will make is that all locks can be manipulated, given enough time and technology. Again it boils down to a matter of degree.

The problem of degree is in trying to measure it. Underwriter's Laboratories has devised a testing procedure that attempts to do just so. Mechanical safe locks may achieve

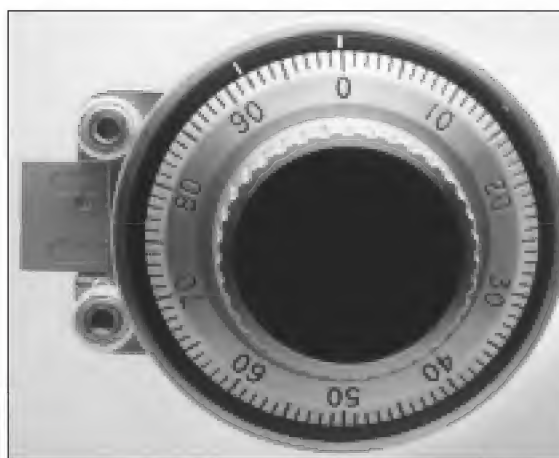
one of three different ratings that rank the lock by its timed resistance to known forms of manipulation (among other things). Actual expert manipulators are given several samples of sealed locks which they then attempt to open

are permitted to have labels attached to them indicating their rating.

Yale, S&G, Diebold, and Mosler all produced locks that bore the Group 1 or 1R label in the 1950s and '60s. It is interesting to note that many of these locks featured a push/pull dial, a feature which was used on safe locks at least as early as 1859, then fell into dis-use by the 1890s.

Though U.L. is not the only safe lock rating system, it is by far the most accepted in North America. The next most influential would be the VdS system from Germany. This system is recognized in much of Europe, and several major players in the States have had their locks rated by VdS in addition to U.L. Locks rated under the VdS system are first divided into one of three categories: Key Locks; Combination Locks; and Electronic Locks. The locks in each category are then ranked into Klasse 1, 2, or 3. Klasse 1 offers less resistance to manipulation, and Klasse 3 offers more.

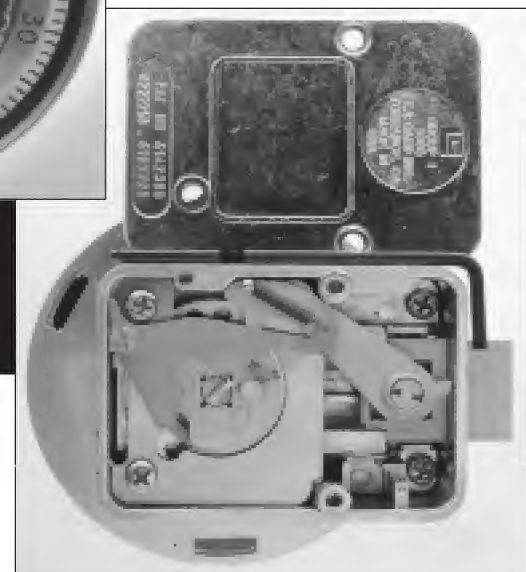
We must not lose sight of the fact that both U.L. and VdS are mere yardsticks to help us compare locks. No lock manufacturer is literally compelled to submit to testing. And since testing



2. The LaGard 1985 used a spring-controlled armature which is activated by a roller on the drive cam to help mask the contact points.

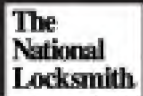
within certain established times. Locks that pass are then ranked accordingly. The three ratings are: Group 2M; Group 1; and Group 1R.

Group 2M (a new specification) requires two hours of resistance during testing. Group 1 (around since the mid 1950s) requires a whopping twenty hours of resistance. Group 1R requires the same twenty hours, plus resistance to radiological attack (X-raying, which fits precisely into our definition of manipulation). Locks that pass these rigorous tests



agencies are all much younger than the lock industry they serve, hundreds and hundreds of outstanding locks were produced before any such testing was available. The right label can be an extremely helpful marketing

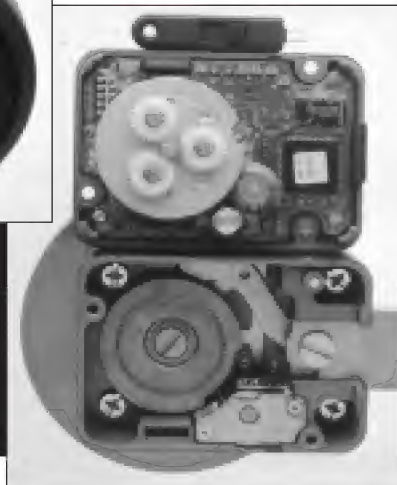
Continued on page 96



Continued from page 94



3. The Mas-Hamilton X-07 Electro-mechanical lock had no contact points or other known weakness to manipulation.



Diebold 180-34

Same as the 180-04, (see Photograph 1).

Diebold 180-55

A curious (and expensive) lock known as the "rotary".

Ilco 693

This lock uses an interesting "slide" activated by drive cam to mask contact points.

LaGard 1980

A spring-controlled armature was activated by a roller on the drive cam to help mask the contact points.

LaGard 1985

Same as the 1980, (see Photograph 2).

Mas-Hamilton X-07

Electro-mechanical. No contact points or other known

weakness to manipulation. Generates its own power when dial is turned (see Photograph 3).

Mas-Hamilton Series 2000 (Auditcon/Cencon)

Same as the X-07 with the addition of smart keys for access.

Mosler MR99

Used a push/pull dial to help hide contact points.

Mosler MR(K)120

Same as the M R99.

Mosler MR(K)302

A two-piece drive cam helped mask the contact points (see Photograph 4).

Rosengrens CNAB-6

Radically unconventional design. A very interesting lock (see Photograph 5).

S&G 6430

Standard S&G vault lock with the addition of a roller in the nose of the fence to thwart manipulators.

S&G 6650

The rare "Ring Guard". Used a two-piece drive cam.

S&G M6730MP

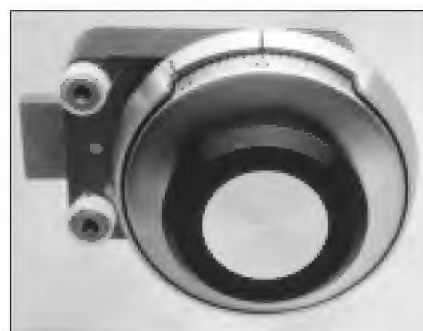
Two-piece drive cam activated by a turn-piece in the dial.

S&G 8400 Series

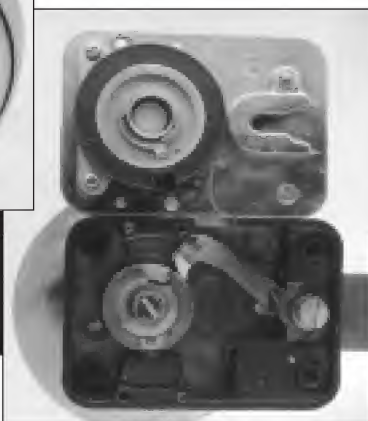
Same as the M 6730M P.

S&G 8500 Series

Dial pushes in and springs back to activate a device that masks the contact points (see Photograph 6).



4. the Mosler MR(K)302 used a two-piece drive cam to help mask the contact points.



tool however. For example, there is a Federal Specification that goes beyond U.L. and is a requirement of any lock that goes on new safes used to hold classified material. There is only one company that has been able to produce such a lock: Mas-Hamilton. Their meteoric rise in the industry has been due to the capability to produce a lock that pushes the upper limits of manipulation resistance.

The following list notes some of the locks that have achieved the ratings of U.L. Group 1 or 1R since the system was started in the mid Twentieth Century. Many of these locks are no longer available.

Diebold 180-04

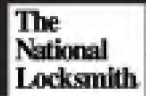
Used a push/pull dial to help hide contact points.



5. The Rosengrens CNAB-6 is a radically unconventional design.



Continued on page 98



Continued from page 96



6. The S&G 8500 Series dial pushes in and springs back to activate a device that masks the contact points.

Yale B30 Series

Continuous clicking when dialing, plus a spring actuator helped this early lock defeat manipulators (see Photograph 7).

Yale B40 Series

Same as the B30.

The designation of 2M is quite new. Only a handful of locks have been awarded this label, including the following.

NATIONAL
AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

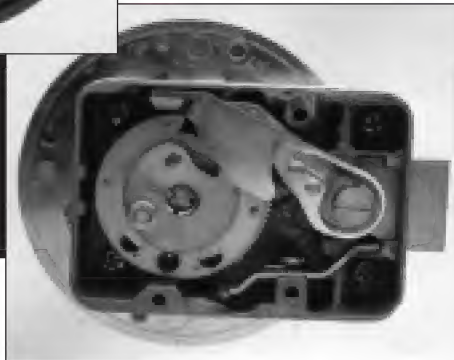
www.laserkey.com

Ilco 683

A roller on the drive cam interacts with wire on the lever to help mask the contact points (see Photograph 8).

Ilco 684

A fourth wheel is added to a traditional lock design to create the extra time needed to win the 2M label.



7. The Yale B30 Series continuous clicked when dialing, plus a spring actuator helped defeat manipulators.

modern and antique locks which bear no testing label of any kind.)

And so the never ending game of cat and mouse continues today. Lock designers drawing upon two hundred years of design knowledge to protect against manipulators using generations of experience to defeat them. If you are interested in exploring the development of lock design further an excellent book is *The Lure of the Lock* by A.A. Hopkins; available through this magazine.

TNL



8. The Ilco model 683 Group 2M used a roller on the drive cam interacts with wire on the lever to help mask the contact points.



MicroKey System Hotel Lock

For more than 20 years, Winfield has specialized in security and access control. Today, Winfield extends this background and knowledge with the MicroKey System Hotel Lock (see Photograph 1). This electronic guest room door lock is designed for the limited service segment of the hospitality industry.

Hotels demand the most for their money when it comes to electronic door locks. The Winfield MicroKey Hotel Lock is cost effective, easy to use, and offers solutions to security needs. MicroKey Hotel Lock is a stand-alone, battery operated, door lock that does not require expensive wiring, and a computer system is not required to program guest keys. The MicroKey lock uses a small, compact unit for encoding guest keys at the front desk of the hotel or motel. The front desk clerk simply enters a few keystrokes and one of the reusable keys is programmed for a guest.

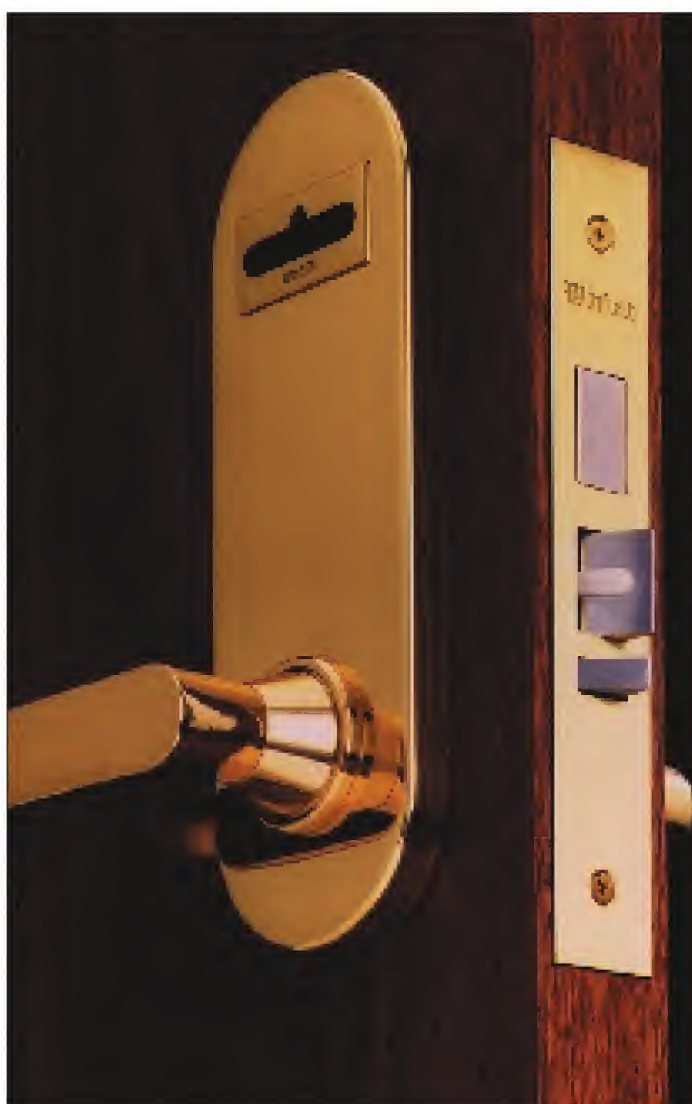
If there is a problem in a guest room, a quick interrogation of the guest room lock shows the last 40 entries into the room. This audit trail cannot be erased and forms an indisputable record of room access by guests, maids, master

and emergency cards.

MicroKey Features Include:

- **Key Encoder** — The key encoder is used at the front desk, mainly to program guest keys. It is a hand-held compact unit, only 1/3 the size of a "Notebook Size" computer and less than 1/4 the weight, and is powered by AC which also recharges backup Nicad batteries that are used in the event of a power outage.

- **Hotel Identification** — Each hotel has a unique code assigned to it by Computerized Computer Systems. This code prevents any key lock, or key



1. The MicroKey System Hotel Lock is designed for the limited service segment of the hospitality industry.

encoder from working in any other hotel.

- **Synchronization** — No loss of synchronization occurs between front desk and guest room door, even if keys are made and not used. The lock always accepts the last guest key made at the front desk for the proper guest room.

- **Real Time Clock** — The key encoder makes use of a real time clock chip. This eliminates the problems associated with changing from daylight savings time to standard time or a leap year.

- **Audit Trail** — The door lock records the last 40 transactions into its memory. Time, date, type of key used and ID of staff card used are all recorded and available for review.

- **Battery Life Lock** — Battery life is estimated at 18 months but depends on usage. A flashing light and pulsating audible tone signals the hotel staff when battery needs to be changed. Standard AA batteries are used.

- **Occupied Room Indication** — The maid key or the maintenance key receives a flashing light if a guest is in the room and the deadbolt is thrown. This gives an indication that the guest does not want to be disturbed.

- **Lock Interrogation** — Lock entries can be retrieved by the query key and brought back to encoder for display or they can be printed out.

- **The Key** — The key is an electronic key programmed with specific hotel and room information.

- **Reprogrammable** — The key can be reprogrammed repeatedly.

Information saved in the memory chip can be changed indefinitely.

- **Durability** — The key is made of highly durable material and can hold up to same wear and tear as an average metal key. It is impervious to water and withstands severe temperature differences.

- **Guest Key** — This key and duplicate keys are issued to each guest in a room. Use of the key eliminates all previous guest keys that opened the lock. Lost guest keys can be replaced immediately. It will not override the deadbolt.

- **Guest Fail Safe Key** — This key is retained in reserve under management's control. It is designed to be used by guests in the event some emergency occurs in the hotel that disables the key encoding unit. It will not override the deadbolt.

- **Lock-out Key** — This key causes the lock to reject all cars except for the emergency key. This permits a hotel to take a room out of service.

- **Inhibit Key** — This key cancels out the codes on the last guest key. This prevents the guest from returning to the room after checking out.

- **Query Key** — This key is used to interrogate the lock if an incident has occurred in the hotel. It is inserted into the lock and the last 40 entries into the lock are transferred into it. The query key is then inserted into the front desk encoder so the entries may be recorded.

- **Emergency Key** — This key allows management or emergency personnel to have access to all guest rooms — even when the deadbolt is secure.

- **Maid Key** — This key is used to gain access to rooms for cleaning and other service activities. Maid keys are encoded with an ID number for tracking purposes.

- **Maintenance Key** — This key is used to gain access to rooms for maintenance purposes. This key is also encoded with an ID number for tracking purposes.



2. The MicroKey lock system is comprised of three primary components: the programmer/encoder, the lock, and the MicroKey key.



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with the
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Design and Capabilities:

The MicroKey lock system is comprised of three primary components: the programmer/encoder, the lock, and the MicroKey key (see Photograph 2).

The programmer/encoder is used to program the system information into the MicroKey key and lock as well as display any information retrieved through the audit trail retrieval key. The encoder displays the selected menus on an LCD display for easy programming of the key and lock (see Photograph 3). The encoder is designed for portable programming capabilities.

The power for the unit consists of a battery pack made up of four AA 1.5 volt standard batteries (alkaline or similar batteries may be used). The MicroKey lock warns of low battery conditions a month in advance of a dead battery. A constant beeping after using the lock indicates a low battery status. Should the batteries become dead a battery probe is used in conjunction with a working key to gain entry.

The mortise lock version easily retrofits existing mortise lock door preps with the addition of a cut-out area above the lock case for the control

panel and battery pack. Once the door is prepped, the lock can be mounted. The only wire termination necessary is the two plug-in connectors coming from the battery and lock thumbturn going into the control panel.

The final component, the key, is actually a small circuit board and memory chip mounted into a plastic head. These keys serve three purposes — to program the lock, retrieve information, and to be used as user keys (see Photograph 4).

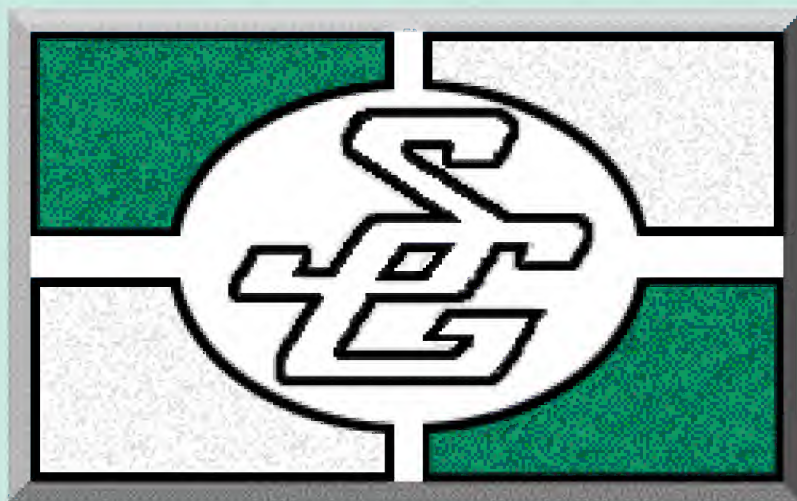
For programming, a programming key is inserted into the encoder first. The necessary information for the lock being programmed is then entered into the key: e.g. lock ID, user ID's, time zones, etc. Once this information is entered into the key, the key is inserted into the lock and the lock is programmed.

To retrieve an audit trail a query card or key is inserted into the lock and up to the last 1200 transactions are transferred to the card. The lock beeps, indicating that the transfer of information is complete. The key is then plugged into the encoder and the information is displayed on the LCD screen or a hard copy can be printed if connected to a printer.



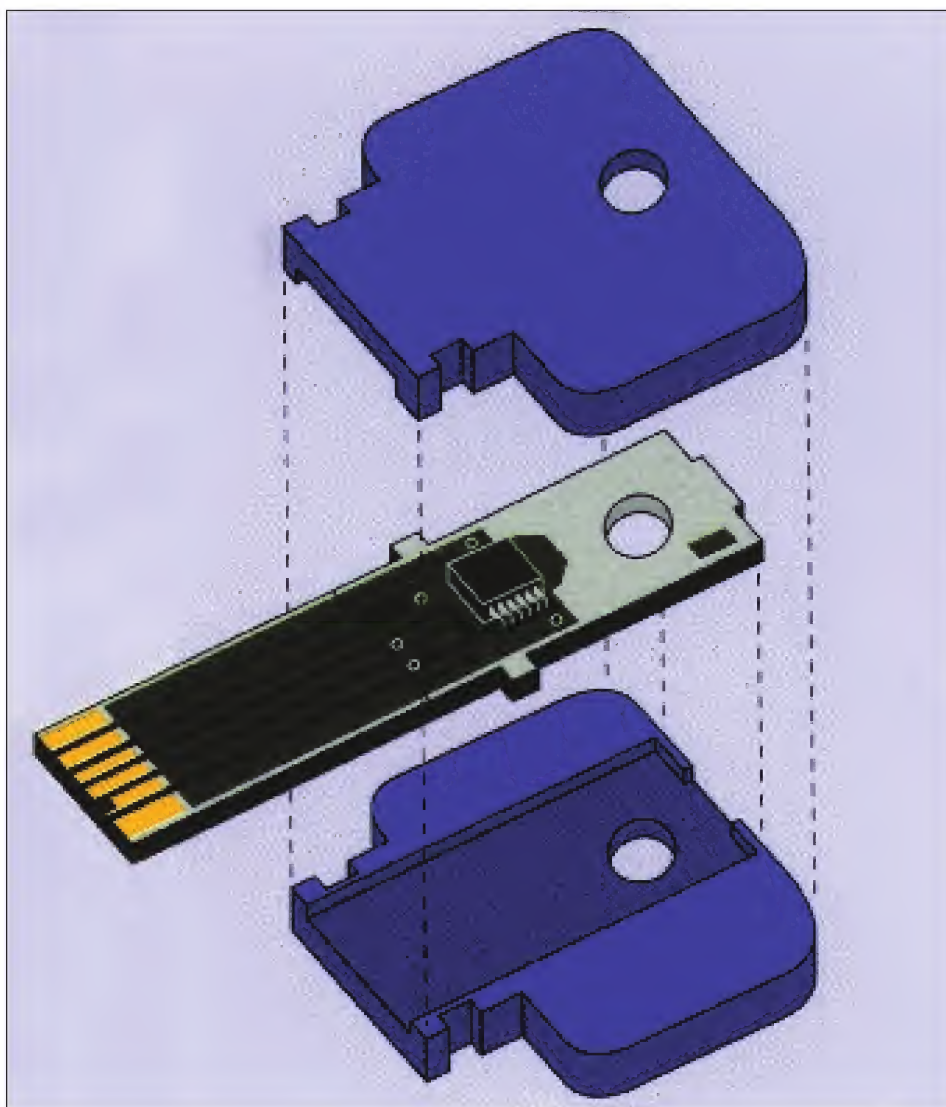
3. The encoder displays the selected menus on an LCD display for easy programming of the key and lock.

To avoid the possibility of duplicating systems and keys by two separate locksmiths or Winfield service centers within a given area, Winfield has given each encoder its own programmed ID number. This number



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Comptronic locks your choice for
electronic safe locking solutions.**

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4. The key is actually a small circuit board and memory chip mounted into a plastic head.

then becomes part of the programming on each key and lock. Only the locksmith or Winfield service center with the proper encoder can make changes, deletions or additions to an existing system.

The MicroKey Lock System is available as a mortise lock, automatic deadbolt or tubular latch. All models employ the large ADA approved levers and escutcheon plates. The control panel or brains for the unit as well as the battery pack are mounted to the inside escutcheon plate for security. The various features of each lock is:

Mortise Lock MicroKey

- Two point locking system
- Full 3/4" inch (19mm) throw anti-friction latchbolt.
- One inch (25mm) throw deadbolt
- Auxiliary latch deadlocks latchbolt
- Available with the Continental lever or Ambassador knob.

- 2 3/4" (71mm) backset

Automatic Deadbolt MicroKey

- One inch (25mm) Automatic Deadbolt locking mechanism
- Available with the Continental lever, Pullman lever or Ambassador knob.
- 2 3/4" (71mm) basket

Tubular Latch MicroKey

- One-half inch (13mm) with dead locking latch mechanism
- Available with the Continental lever, Pullman lever or Ambassador knob.
- 2 3/4" (71mm) basket

For more information on the MicroKey system, contact Winfield at: 800-562-5733. **TNL**



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man!!

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Titan

Interconnected

Locks



by
Sal
Dulcamaro

Kwikset makes grade 2 interconnected locksets for the Titan product line, available in a variety of styles, functions and finishes. They are available for knob, lever and handleset in different decorative styles currently used for the non-interconnected products. The unassembled parts of a Titan knob style interconnected lock is shown in *Photograph 1*.

The Titan (and newer version Kwikset grade 3) interconnected

locks replaced the older Kwikset Protecto-Lok products. Like the Protecto-Lok, the interconnected locks are designed for panic proof exit. In a panic situation, the action of turning the inside knob (which normally retracts only the latch) also retracts the deadbolt, allowing for uncomplicated and immediate exit. The interconnected locks provide the additional security of a deadbolt, while providing the quick exit capability of a knob only installation.

The spacing between the centers of the knob and deadbolt cross bore holes has been changed from the old Protecto-Lok line to 5-1/2" centers. *Photograph 2*, shows the steel mounting plate at the right and the rack and pinion mechanism at the left, with the larger 5-1/2" spacing. The handing of the rack and pinion

Continued on page 106



1. The unassembled parts of a Titan knob style interconnected lock.



2. The spacing between the centers of the knob and deadbolt cross bore is 5-1/2".

Continued from page 104

mechanism is reversible. It is currently set for right hand. You can see the raised letters RH visible near the top left of the mechanism. When converted to left hand, the letters LH would be visible.

Installation Procedure

Like most other Kwikset products, the Titan interconnected locks require 2-1/8" diameter cross bore installation holes. Unlike other combination knob and deadbolt installations, spacing is very critical for interconnected locks. Because of the construction of the rack and pinion mechanism, there is very little room for variation from the required 5-1/2" centers. Going beyond installation dimension tolerances will cause alignment problems and interfere with the smooth operation of the lock.

For non-interconnected combinations of knobs and deadbolts, it is possible (but not recommended) to install each lock on the same door with different backset dimensions. The rack and pinion mechanism for the interconnected locks will also have the consequence of requiring the same backset for both knob and deadbolt.

Photograph 3, shows a lock mount prepped for the Titan interconnected lock. Both cross bore holes are 2-1/8" diameter, and the edge bore holes are

1" diameter. The spacing between the mounting holes is the required 5-1/2". The areas around the edge bore holes have already been mortised to accept the rectangular plates that are on the ends of both the latch and bolt. The lock is available in both 2-3/8" and 2-3/4" backsets. The latches have fixed backsets of either 2-3/8" or 2-3/4", but the bolt (included with the lock) is adjustable to either 2-3/8" or 2-3/4" backset. A UL rated latch is standard.

The latch and bolt have been installed in Photograph 4. The interior and exterior parts will fit through the openings of the latch and bolt, and connect together. Attaching screws running through the steel mounting plate connect to the exterior parts of the deadbolt and knob mechanisms, in Photograph 5.

After the attaching screws were tightened, the rack and pinion mechanism is fitted over the top of the steel mounting plate and the protruding parts of the exterior deadbolt and knob mechanisms. Photograph 6, shows two smaller screws (at the top and bottom of the rack and pinion mechanism) holding that part to the steel mounting plate below it.



5. Attaching screws running through the steel mounting plate connect to the exterior parts of the deadbolt and knob mechanisms.



3. A lock mount prepped for the Titan interconnected lock.



4. The interior and exterior parts will fit through the openings of the latch and bolt, and connect together.



6. Two smaller screws (at the top and bottom of the rack and pinion mechanism) holding that part to the steel mounting plate below it.

Lock Operation

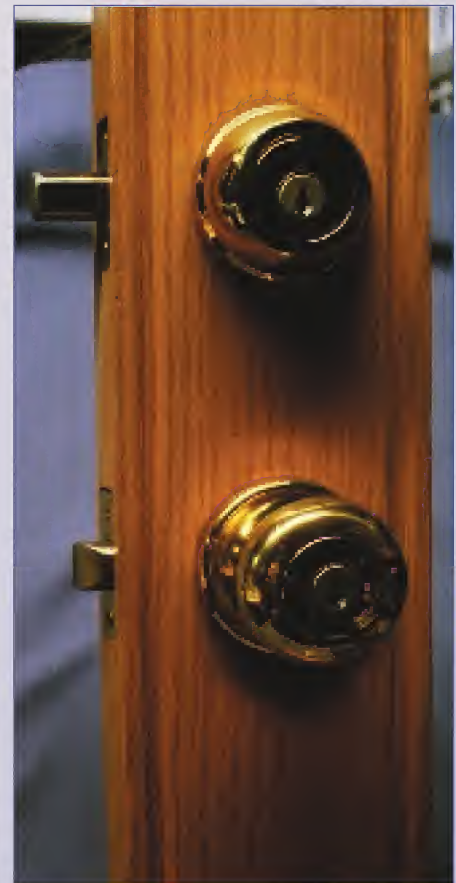
In *Photograph 7*, the thumb piece has been rotated so as to extend the deadbolt. The thumb-piece points upward to the symbol for locked, which is a picture of a locked padlock. With a standard knob and deadbolt combination (when locked), you would have to turn the thumb piece to retract the deadbolt and then turn the knob to retract the latch. The panic proof design of the interconnected lock only requires the action of turning the interior knob to both retract the deadbolt and latch. In one quick motion you are out the door.

The Kwikset product literature indicates an interesting twist to the interconnected lock mechanism. The rack and pinion mechanism is designed in such a way that the deadbolt will retract just slightly before the latch, when turning the knob. The purpose of this feature is to minimize the possible binding of the bolt in the strike, for slightly warped doors.

A slight (or even more dramatic) warping of a door will normally cause the door to start to open after the knob is turned and the latch retracted.



7. The thumb piece has been rotated so as to extend the deadbolt. The thumb-piece points upward to the symbol for locked.



8. The panic proof operation works only on the inside.



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The door will try to pop open, but it will stop when the extended deadbolt catches inside the strike after a fraction of an inch of door movement.

Depending on how badly the door is warped, the binding action of the strike on the extended bolt will make turning the thumb piece to fully retract the bolt (or in the case of an interconnected lock, the continued rotation of the knob) somewhat difficult. If the Titan interconnected lock can minimize that problem, opening the door in a panic situation would take less physical strength, when opening a slightly warped door.

Photograph 8, shows an outside view when locked. The panic proof operation works only on the inside. To

unlock the door from the outside, the key must be used to both unlock the deadbolt on top and the knob lock on the bottom.

Key Removable Cylinders

One of the primary selling features of the Titan product line, when first introduced, was the key removable cylinders. Somewhat different in concept from most of the other brands of interchangeable core locks, the Titan locks have the capability to be rekeyed without removal of mounting screws and the (normally) inevitable disassembly of the lock mechanism.

Photograph 9, shows the cylinder removal tools (specially modified operating keys) rotated to allow the cylinder retainers to retract, so that the cylinders can be removed. Both lock cylinders have been partly pulled out of their housings.

The removed knob cylinder is on the left in *Photograph 10*, and the deadbolt cylinder is on the right. They are not switchable between knobs and deadbolts. Because of the different operation of the knob and deadbolt mechanisms, knob cylinders will only fit into knob locks and deadbolt cylinders will only fit into deadbolt locks. The lock cylinders are ready to be rekeyed, and then just as quickly and easily re-installed back inside the lock housings.

Like the other Titan products, the lock cylinders are also available with competitor brand keyways such as Schlage, Master/ Dexter, Weiser and Weslock. For more information on the Titan interconnected locks or other Kwikset brand products, contact your local lock supplier, or call: 800-327-LOCK. **TNL**



9. The cylinder removal tools rotated to allow the cylinder retainers to retract, so that the cylinders can be removed.



10. The removed knob cylinder is on the left and the deadbolt cylinder is on the right.

The **WALTER** Side

Mistaken Identity



by
**Sara
Probasco**

"Can I help you?" The receptionist glanced up from her typing only long enough to establish the fact that she was talking to Keith.

He stood before her, his jacket still zipped against the belated wintry chill that had descended upon us unexpectedly during the April night. She couldn't see his photo ID or the patch on his shirt identifying him as an employee of A-1 Lock & Key.

"I was told to be here at ten, this morning," Keith said.

"You have an appointment?"

"No, not really. I'm supposed to...."

The woman impatiently cut him off.

"Just have a seat. Somebody will get to you in a minute," she said. Then she returned to her typing.

Glancing about, Keith noticed two young men slouched in chairs on the far side of the room. One was idly cleaning his fingernails with a pocket knife. The other was tipped back in his chair, his head against the wall, as if asleep.

Keith chose a seat close to the door.

No stranger to the probation division of our local police department, Keith had worked in law enforcement prior to becoming a locksmith and had been in and out of these probation offices more times than he could remember. However, there had been some turnover among the office personnel since his days on the force; he didn't recognize many faces down there, any more.

After a few minutes, Keith approached the receptionist's desk again and waited patiently for her to look up.

When she finally did, it was with a scowl.

"Now what do you want?" she demanded.

"It's nearly ten thirty," Keith said, pointing to his watch. "I just thought

you might need to let somebody know I'm here, so...."

"You better sit down over there, like I told you. You want me to call one of the officers in here?" she retorted.

"That would be fine," Keith replied, standing his ground.

The woman's mouth snapped shut. She thought for a moment and decided against following through with her threat. Maybe she thought it would look bad for her if she had to summon reinforcements, especially since she hadn't held this job very long.

"Sit down and wait your turn, like everybody else," she snapped.

Just then, the inner door opened and a probation officer stepped through, holding a fat file folder.

"Michael Journeyman?" he read out impersonally from the tab. As one of the young men dragged himself out of his chair, the officer glanced up. His eyes settled on Keith.

"Barrow? Is that you?" he asked, grinning as he extended his hand. "You old son-of-a-gun! What are you doing down here?" He turned to the receptionist. "Why didn't you tell me Keith was here?" Not waiting for an answer, he continued enthusiastically, "What are you doing, these days?"

When Keith explained that he was now working as a locksmith with A-1 Lock & Key, and had been summoned to repair some locks in the back area, the receptionist shrank down behind her typewriter.

"She obviously thought I was there to see my probation officer," Keith told us later, laughing over the matter. "Man, was she ever embarrassed when she found out I had come to change their locks."

This wasn't the first time Keith had been the victim of mistaken identity. In times past, he had been an ambulance attendant with

Emergency Medical Services. Furthermore, he worked for a time as a night security guard at the local hospital. As a result, some people around town, who frequently saw him in and around the hospital in one capacity or another, assumed he was on the medical staff of the hospital.

"At least nobody ever let you perform surgery," Don chuckled when they were talking about this one day. "You know, we had one fellow in town, a few years back, who represented himself as a psychiatrist. He had a string of credentials a mile long.

"The hospital had brought him down here from Canada, I think it was, introduced him all around, found him a nice office and helped him get his practice set up. They even arranged free living accommodations for him until he could get settled.

"I remember meeting him at a dinner-theater event the local drama group put on. The hospital administrator and his wife had brought him as their guest and were trying to see that he met everybody. He was a very personable fellow," Don said.

"So, what happened?" Keith asked.

"Interesting enough, nobody had checked into his elaborate credentials before he came. In fact, it wasn't until it became evident he wasn't doing so well in establishing a practice and he hadn't made any payments to his landlord that anyone became suspicious. Then he began quietly approaching first one person, then another, asking for 'loans' until he could get established. He even approached us, through a mutual contact, about entering into a sideline business with him to market locksmith supplies to Mexico," Don said.

"Mexico? I thought he was from Canada," Keith said.

"That was another interesting

point. He told us he received his medical training in Mexico, but had been practicing in Canada for a number of years. Also, he claimed to have multiple contacts in both those countries sufficient to establish a wide network for an import/export business, if only he could find the right people in the States to work with him. Of course, we happened to be the people he'd been looking for." Don chuckled. "He was a real con-man. No telling how many others he approached, before he was found out."

"So, what happened?" Keith asked.

"Due to his financial difficulties, the hospital decided to look into his credentials. After all, he claimed to be an established psychiatrist. The problem was, so many years had passed since he had supposedly graduated, the university in Mexico could find no record of his having been there," Don said.

"What did the guy have to say about that?" Keith asked.

"Nothing. Apparently, he got wind of what was going on. He asked a man who had tried to help him get

established if he could borrow his car for a week to drive back to Canada and make arrangements for a permanent move to Uvalde."


"Don't tell me he let him do it!"

"Yep. Of course, when the guy didn't come back and there had been no word for weeks, his benefactor filed stolen vehicle charges, but they didn't stick, since he had to admit he had loaned his vehicle to the man willingly." Don shook his head, remembering.

"I don't feel so bad, now, about

people mistaking me for somebody else. At least I've never deliberately tried to fool anybody," Keith said.

"Oh, yeah?" Don replied, a twinkle in his eye. "How about the way you run around town masquerading as a locksmith?"

Laughing, Keith was quick on the up-take. "A locksmith? Well, I'll be! The way you keep telling the customers 'It's magic,' I thought sure you were training me to be another Houdini!" 



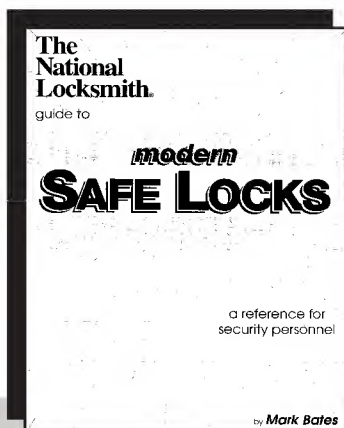
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*This material was excerpted from the Mark Bates book titled Modern Safe Locks. The book covers combination operating and changing procedures for virtually every combination lock both mechanical and electronic, that you will encounter on a daily basis. Modern Safe Locks is available for purchase through **The National Locksmith**.*

Yale

MODERN SAFE LOCKS TECH BULLETIN

MODEL:	OC9KM (Discontinued)
DESCRIPTION:	Three wheel, key-changeable combination safe lock. Dial is numbered from 0 to 99 clockwise. Regular change.
RATINGS:	None
FACTORY COMBINATION:	Thought to be on random factory numbers.
OPENING PROCEDURES:	<p>WHEN SET TO A 3 NUMBER COMBINATION:</p> <ul style="list-style-type: none"> a. 4XR to 10 b. 3XL to 20 c. 2XR to 30 d. 1XL to stop (05)
TO LOCK:	Turn dial right 4 times
FORBIDDEN ZONE:	None
CHANGING PROCEDURE:	<p>WITH THE SAFE DOOR OPEN...</p> <ul style="list-style-type: none"> a. Dial the existing combination to the changing index (steps a through c under "Opening Procedures"). b. Insert change key and turn it right 1/2 turn. c. Dial new combination to changing index (steps a through c under "Opening Procedures"). d. Turn change key left 1/2 turn and remove it. e. Test combination at opening index (steps a through c under "Opening Procedures").
TOOLS NEEDED:	Yale change key, part number unknown.
NOTES:	Most Yales must be dialed left to retract the bolt, and this one is no exception. The Yale company has been in the security manufacturing business since at least the 1840's, but no longer produces safe locks. The OC9KM is representative of many mid-century Yale locks.

Yale



Yale 0C9KM



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'97

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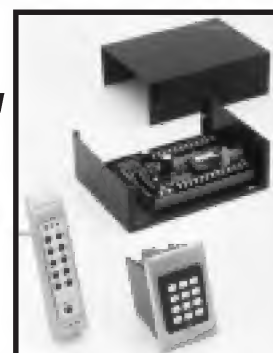
THIRD PRIZE:
\$500 IN ALL LOCK PRODUCTS



FOURTH PRIZE:
\$500 IN ASP AUTO LOCKS



FIFTH PRIZE:
*SECURITRON
DK-26
TOUCHPAD
AND CPU
BOARD FOR
MAGNETIC
LOCK*



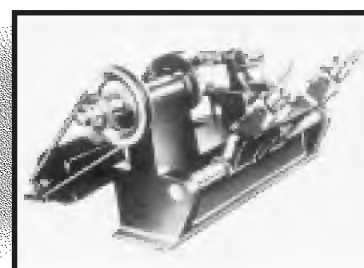
SIXTH PRIZE:
*SDC
MAGNETIC
LOCK,
KEYPAD
AND EXIT
SWITCH*



SEVENTH PRIZE:
*ARROW EXIT DEVICE AND
MOUNTING PLATE KIT*



EIGHTH PRIZE:
*FOLEY-BELSAW
200 KEY MACHINE*



NINTH PRIZE:
*SLIDE LOCK'S GRAND
MASTER "Z" TOOL SET*



TENTH PRIZE:
DEWALT CORDLESS DRILL



ELEVENTH PRIZE:
*FALLE PICK SET FROM MARK
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- Sargent And Greenleaf
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- A-1 Security Products
- Silca Key Blanks (100 Blanks)

- Pro Lock Pk 15
Professional Lock Pick Set
- Tech Train Training Video
- Sieveking Products
Gm E-Z Wheel Puller
- Major Manufacturing Products
- The Sieveking Auto Key Guide
- Jake's Grab Bag Prizes!

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Jake Jakubowski, Technitips Editor,
The National Locksmith, 1533
Burgundy Parkway, Streamwood, IL
60107 or send your tips via E-mail to:
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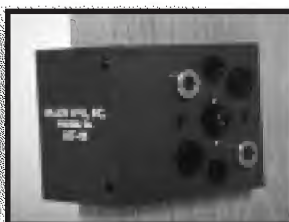
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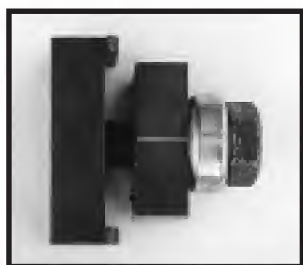
TWELFTH PRIZE: SARGENT AND GREEN LEAF 6120 ELECTRONIC SAFE LOCK



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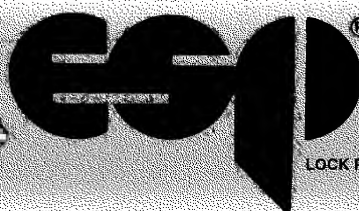
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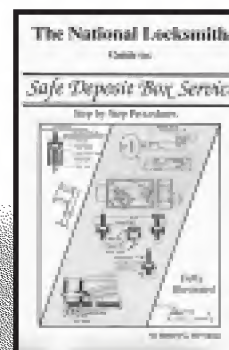


NINETEENTH PRIZE: ESP PRODUCTS SAMPLER FROM ESP



*Tips
start
on next
page!*

TWENTIETH PRIZE: SIEVEKING SAFE DEPOSIT BOOK





ALL LOCK WINNER: Tools Of The Trade

Like everyone else, I'm constantly looking for an easier or faster way of doing those repetitive tasks that I do everyday. Here are a couple of tools that I have found, that although not made for locksmithing, lend themselves very well to the trade.

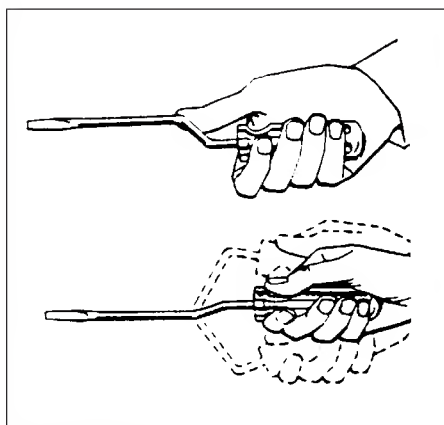


Illustration 1.

The first is a rotary screwdriver, (see *Illustration 1*). As shown in the illustration, just put the bit of the screwdriver in the screw head, spin the handle and either back the screw

A Few Words From J ake...

As old Jerry Clower would say: "Whooooeeeee!"

I hope you noticed that this years year-end prize pool now has twenty-one great prizes in it to be given away next January. If you think about it - January isn't that far away, so you still have time to send me a neat idea. Who knows, you could qualify to win one of the fantastic year-end prizes you see here.

You stand almost double the chance of winning a year-end prize this year over last year. And that's not considering the new and expanded list of monthly prizes that we're giving away. That list has now grown to thirteen plus: "JAKE'S GRAB BAG PRIZES." With the grab bag prizes, you never know what you'll get. It could be a simple door viewer, a pinning kit or most anything that a manufacturer sent in to me.

At any rate, by the time you figure the value of the year-end prizes, the monthly prizes, the Locksmith Bucks and books that I'll be sending out to tipsters this year; 1997 will definitely be the biggest, baddest, most boadacious year ever in the history of *The National Locksmith's* Technitip Column!

I want to sincerely thank every manufacturer and distributor for their generosity and support. It is through their unselfish contributions that continue to make this Technitip column, and magazine, the best there is.

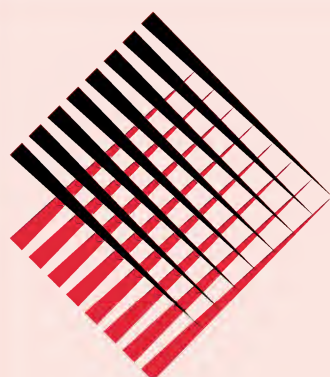


by J ake
Jakubowski

out or drive it home. I can take a truckload of locks off doors faster with this tool then any other I have used. It's small, handy and quick. Plus there

are no cords or batteries to worry about.

To preclude the possibility of damaging the door or frame, I use



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shrink tubing to cover the shafts of the screwdrivers. Just slip it on over the shaft and apply a heat source until it fits snugly. You can find shrink tubing at most hardware stores or Radio Shack.

The rotary screwdrivers that I use are manufactured by Klein Tools in Chicago, IL and are found in most any electrical supply house that caters to electrical contractors. If you can't find a dealer that sells these tools, try giving Klein a call at 1-800-553-4676 for the name of your nearest supplier.

I also use a magnetizer/demagnetizer tool with these screwdrivers, and other tools (see *Illustration 2*). The magnetizer can be purchased from your local hardware store and is really handy for retrieving those screws that always seem to go down that 2-1/8" black hole in metal doors. The nice thing about the magnetizers is that they can be used to "charge" or "discharge" the tools as required.

If you don't already have these tools, get them and try them. I'm sure you'll like them. Dennis Harmon
Colorado

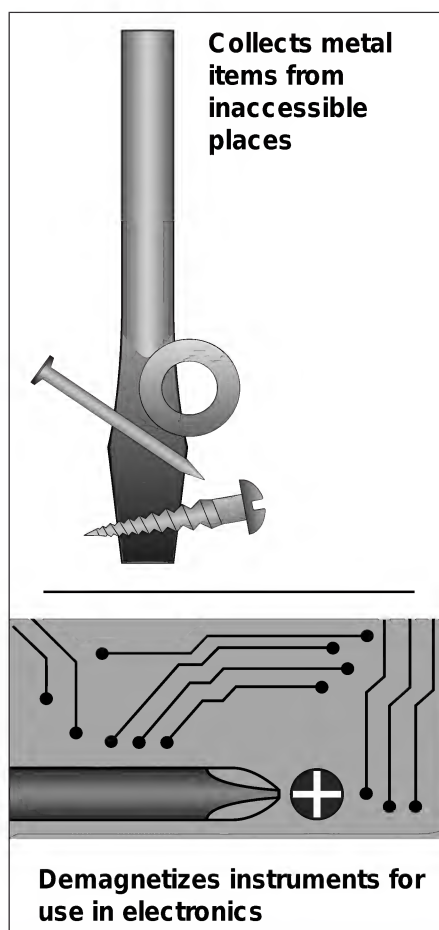


Illustration 2.

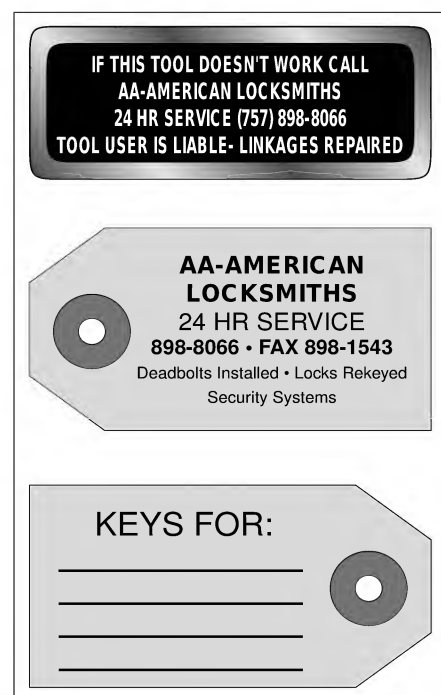


Illustration 3.



**AERO LOCK TRY-OUT
KEY SET WINNER:
Using Tags For
Repeat Business**

Here are two simple ways that I have found to help increase business for my shop. *Illustration 3*, shows a

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key tag which is printed with our company name and telephone number on one side and "Keys For" on the other with several lines for us to write information such as: Customers name, telephone number, safe combination or key code. We put one of these on every set of keys we make. The customers seem to like them and often carry them in their wallet or purse. This means they are carrying our name and number with them wherever they go.

The second item is a stick-on label that I place on Slim-Jim type tools that I give out to the police department(s) in my area. I bought several dozen Slim-Jim type tools and placed a sticker on each one. Then I give them to the police.

As you know, a Slim Jim can open very few later model cars, so more often than not, the officer that uses one of these tools fails to get the car open. When that happens, my name and number are right there to be plainly seen. Guess who gets the call?

I know a lot of folks out there will think I've lost my senses, but since the police open cars in my area anyway, I thought this would be the best way to

turn the situation to my advantage. Does it work? You can bet the farm it does! The label says: "If this tool doesn't work, call." our opening calls have increased dramatically since I started giving these tools away, so has our linkage repair business.

Jim Loftus
Virginia

[Editor's Note: Jim, you're right! There will be some readers who disagree with your idea, but personally, I think it's great. Any locksmith who offers car openings as a regular part of their service, and who face the prospect of police and others opening cars, should definitely consider using this concept. If it was me, I think I would expand the idea to the local grocery stores and tow or recovery services!]



**STRATTEC RACING
JACKET WINNER:
Key Extracting Files**

While enduring a stint in the dentist's chair, I noticed these great little files that the good doctor was making holes in my teeth with. Even in my drug induced stupor, I thought these little jewels would make passable key extractors. Did they ever. In fact they exceeded my wildest imagination! Not

only do you have a selection of six sizes, they are extremely durable, and as a bonus, each one has its own nifty little plastic handle.

The files are properly known as: Stainless Endodontic Hedstrom Files. You should be able to get them from your favorite dentist or orthodontic surgeon. Mine cost me ten bucks (U.S.) from my dentist. Solly Rosen
Washington

[Editor's Note: Solly sent me a package of the Stainless Endodontic Hedstrom Files (Trade Name: Endoflex) and they work great. I think they're a worthwhile addition to any tool box. If you can't find these locally, try calling Henry Schein, Inc. at 1-800-372-4364. They import and distribute the files and can probably direct you to a source. Thanks for the tip Solly. However, I hope you don't have to have holes filed in your teeth in order for you to send me another tip!]



**HPC PISTOL PICK
WINNER:
Square Column
Shroud Repair**

The upper steering column shroud on the General Motors tilt square

Continued on page 122



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Continued from page 120

column is quite easy to remove. However, many times, from either heat or other stresses, the now-brittle, well-adhered plastic below the Torx screw will crack and break.

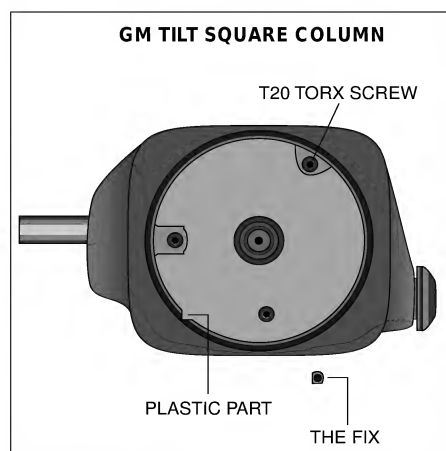
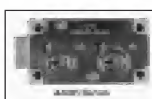


Illustration 4.

Illustration 4, shows a simple but effective way to repair this problem. Simply fashion a scrap of aluminum to act as a washer or use a small, thin washer that will fit. Place it as shown and replace the Torx screw.

Mark Ballinger
Arizona



**SARGENT AND
GREENLEAF WINNER:
MAG-nificent
Simplex Installation**

In the past, I have found that installing a Simplex 1000 in a door with an existing 2-1/8" crossbore, can sometimes be a bit of a problem. Even when using the paper template provided with the lock, I have had difficulty getting the proper alignment that I want. Now, I think I have a better way.

Using a MAG 1000-9S, I first cut off the latch edge of the plate. Now I have two plates with all of the proper holes in perfect alignment. It's an easy matter to scribe horizontal and vertical center lines on the face of the door and place the 2-1/8" cut out of the plate over the crossbore to get the alignment that I need.

I drill pilot holes with a 1/8" bit and follow with the proper size drill bit from each side to avoid marring the finish on either face of the door.

Lenny Woltiz
Minnesota

[Editor's Note: I'm sure many of us have experienced Lenny's problem and

his solution is a good one. Major Manufacturing makes a great installation tool for Simplex and Trilogy locks called the HTI-10. With the HIT-10 the holes are dead on-center every time. If you do a lot of these installations, I'd look into it.]



**A-1 SECURITY
PRODUCTS WINNER:
Waxing Schlage
Deadbolts**

Anyone that has installed a Schlage Double Cylinder Deadbolt has had those pesky tailpieces fall out. Often they will fall into a hollow metal door cavity, never to be seen again. I've tried everything, including the Vaseline trick that I saw in this column some months back. Here's how I finally solved this problem to my satisfaction.

I carry a candle in my truck and when I am ready to install a Schlage Double Cylinder Deadbolt, I light the candle, let a drop or two of wax fall in between the tailpiece and the retainer and viola! The tailpiece stays in place and the wax does not interfere with the operation of the lock.

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If you are called back to re-key the same locks, the wax is easily removed. It does not complicate the job in any way as far as I can tell. Jim Heffner
North Carolina



**SILCA KEY BLANKS
WINNER:
Custom Retainer
Depressor**

Illustration 5, shows a tool that I have made from an old Schalgé "F" series plug and a large bow SC1 "DND" blank. This tool has been a great help to me on residential lock-outs where the lock has been picked or can only be picked in the "wrong" direction.

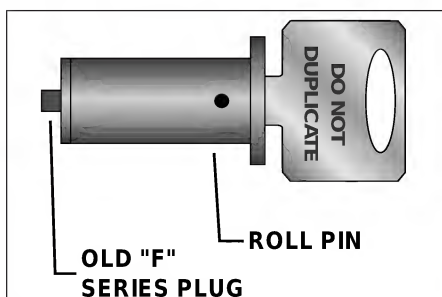


Illustration 5.

If you look at the tool in the illustration, you will notice that on one side of the bow, I have filed the bow down to form a point. This point becomes a retainer depressor and works even when the retainer is on the jamb side of the door. Simply pick the lock in either direction and hold the "handle" (plug) of the tool and use it to depress the retainer.

To make this tool, insert a large bow blank in a plug and drill a hole completely through the plug and blank. Then pound in a roll pin, locking the keyblank and plug together. Then grind or file the "tip" that you need to act as a retainer depressor. Pete Kuchan
Washington



**PRO LOCK PK 15
PROFESSIONAL PICK
SET WINNER:
Vent Window Spoon
Picks**

Here's a tip for making a pair of economical vent window opening tools. Grab the next couple of table spoons that your wife is going to throw away (or pick up a couple on your next trip to the flea market) and bend them as shown in *Illustration 6*. Make your bends at the narrowest part of the handle and bend the tips of

the spoons slightly inward as shown.

Now lube the spoons with your favorite lubricant, slide one under - or between - the weather stripping and the window frame and depress the locking button. Now slip the other spoon under the frame and lift the handle. The vehicle's open!

Since the handles are flat, there is very little strain on the window frame and because the edges of the spoon's handle are "finished" there is little or no chance of scratching anything.

Tom Sager
Michigan



Illustration 6.

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and services for the Automotive
Locksmith. From tools and hardware to
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**TECH TRAIN TRAINING
VIDEO WINNER:
Modifying Car
Opening Tools**

We use High Tech Tools for opening vehicles and find that the vertical button tool (as with other sets that we have looked at) needed modification to more easily lift the vertical rod by engaging the shoulder of the button.

Here's how I modified the vertical button tool to be more effective, (see *Illustration 7*).

Cut a small wedge of metal from a scrap source and weld or braze that piece to the tip of your vertical rod tool as shown in the illustration. You want a wedge of material at least a quarter inch wide to give you a total working surface of approximately $3/8$ ".

Add the wedge of material to both ends of the tool or the end which you will most frequently utilize. The addition of the wedge will not interfere with the insertion of the tool in the door, but will aid in lifting the button.

Bob Scott
Florida

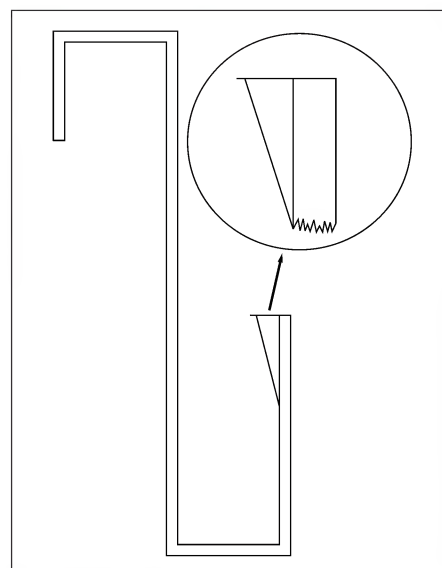
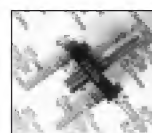


Illustration 7.



**SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
Lexus Trunk
Opening**

After reading several tips on retrieving keys from a Lexus trunk, I thought I'd drop you this tip. I think it is the easiest way to retrieve Lexus keys locked in the trunk, provided the trunk is not full of suitcases or whatever.

After gaining entry to the car, remove the rear speaker grille. It simply pulls up. Then remove the speaker which is held in place with four 10mm bolts. Unplug the speaker and use a long rod or piece of wire to fish the keys out!

There is a fiber board liner between the speaker and the trunk, but it can be moved or opened to allow access.

Opening the car, removing the speaker and retrieving the keys generally takes me about twenty-five minutes using this technique. Hope it help another locksmith. Jerry Murray
North Carolina



**MAJOR
MANUFACTURING, INC.
PRODUCTS
WINNER:**

Tips For V.A.T.S. Key Generating

Here are a couple of tips regarding V.A.T.S. single sided ignition key generation. This just might make another locksmith's day go a little easier.

Make sure the transmission cable is connected and the transmission is in park.



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Make sure the battery is charged.

Make sure the V.A.T.S. fuse is not blown.

Do not - repeat - do not use Graphite on a V.A.T.S. lock. The Graphite will get on the contacts and will not allow them to be read properly.

Wait a full FOUR MINUTES between tries. Waiting just three minutes can often ruin your day and cause you to start your countdown all over.

Finally. If you have just mis-cut your last V.A.T.S. keyblank and really need to get the job done, sacrifice another V.A.T.S. blank by knocking out the resistor pellet with a wooden follower and then knocking the proper pellet out of the mis-cut blank and inserting it into the uncut blank. Not necessarily recommended, but will get you out of a pinch. Robert Gardner
Florida

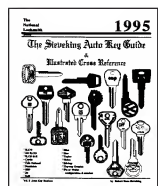


SLIDE LOCK'S "Z" TOOL OPENING SET
WINNER:
Protecting Your Files

To protect your impressing files, or any file for that matter, make sleeves from corrugated cardboard. Just measure the length and width of the file and cut two pieces of cardboard an inch longer. Make sure that the direction of the file (length) goes with the grain of the corrugation. Use duct tape to tape the two long edges and one short end together and insert your file.

You can also use corrugated cardboard to line the drawers of your tool boxes or work bench. By using the cardboard as liners, you will cut down on the noise, protect your tools and find that your tools do not rust.

Douglas D. Dorr
Ohio



THE SIEVEKING AUTO KEY GUIDE WINNER:
Machine Screw Reference

I have noticed in many locksmith trade magazines that machine screw sizes are mistakenly quoted. Frequently a 10-32 machine screw is written 10/ 32". This is incorrect. A 10-32 machine screw is a 10 gauge screw with 32 threads to the inch.

Machine screws can be referred to as fractional as well, such as a 3/ 16" x

24 thread or its equivalent: 10-24 machine screw. To help clarify this, I offer the following:

5-40 is the same as a 1/ 8" x 40

6-32 is the same as a (no equivalent)

8-32 is the same as a 5/ 32" x 32

10-24 is the same as a 3/ 16" x 24

12-24 is the same as a (no equivalent)

I hope this helps clear up some confusion for those who are unfamiliar with the proper terminology.

Marvin A. Meyer
Louisiana



JAKE'S GRAB BAG PRIZE WINNERS:
Speed Controlled Key Machine

I have a Foley-Belsaw key machine that was supplied with the locksmith course I took. I always thought the speed was too fast. To control the speed, I wired up a foot control from a sewing machine and now I can regulate the speed of my key cutter.

Lee Fortun
Wisconsin

Shoe String Repair

Here's a little tip concerning the Pro-Lock "Euro Strip," the HPC "Lasso" or other tools of that nature. I started to use one of these tools on a car lockout and the string (dental floss) or whatever the material was broke.

Not being able to find any dental floss I deemed strong enough, I checked a shoe repair shop and found that the cord they use to repair shoes is very strong and it works exceptionally well with these type tools.

Marvin Golden
Oklahoma

Rim Cylinder Tailpiece

When rekeying a rim cylinder from a panic device, you can sometimes have difficulty trying to align the tailpiece during re-assembly. To help in this task, prep the tailpiece first by beveling the edges and the tip with a file or a Dremel Tool. You'll be amazed at how much easier it is to insert the tailpiece in the panic device after altering the tailpiece.

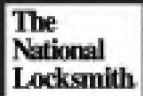
Pete Gamble
North Carolina





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GUN SAFE SERVICING TIPS



by
Dale W. Libby,
CMS

Bagels. At one time, many years ago, if you were not of a certain ethnic background, you may never have heard of or eaten a bagel. That has changed in the last few years. Now there are stores

with names like "New York Bagels, Boardwalk Bagels, Big Apple Bagels, etc." Most large supermarkets sell Thomas' Bagels (Famous for English Muffins). Everyone is now in the bagel business.

The same is true for Gun Safes. At one time you could order a gun safe by mail order, or go to locksmith/safe store to actually view one of these units. Gun and Ammo stores might carry a few in stock as well. Now, that has changed as well. Many large discount stores like Wal-Mart, Sams Club, and even Giant Hardware stores are starting to carry these interesting units.

You will have to service these safes in the and you might want to get prepared. The reason is that many of these safes are used for anything else but storing guns. I have seen papers, coin collections, jewelry and even furs stored in these attractive units.

The modern gun safes come with built in heaters for moisture, carpeted interiors with adjustable shelves, and mechanical and electronic combination locks. The product is packaged beautifully. The paint jobs are good, and the unit is fancied up with impressive logos, painted

pictures, gold leaf locks, and a variety of opening handles.

The handles come in a variety of configurations, from the basic "L" handle, ship wheel handles, three lever bank vault type handles, to may other shapes. Many of these units have a 'western' flavor name, like: Fort Knox, Cannon, and Winchester.

The latest improvement by the manufacturer is to add some fire resistant (possibly heat resistant would be a better appellation) material in the doors, top, and sides of the safe. This is a better selling come-on, but it makes the work of a safe technician, at least on mechanical locks, much harder.

Some of the non-heat rated safes I have worked on have the change key opening in the back plate of the safe. To change the combination is

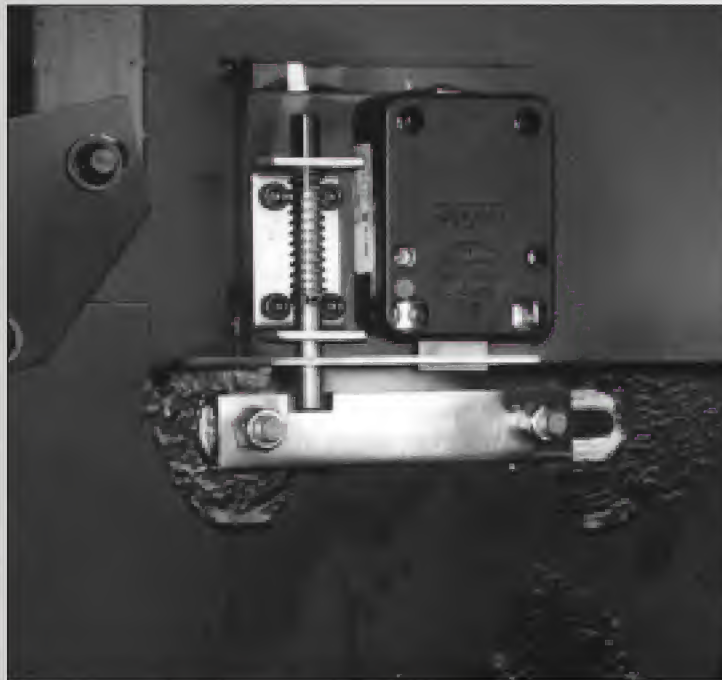
quite easy and straight forward. If you decide to do a full tear down, be prepared to remove many screws to get access to the back of the safe door.

Continued on page 128



1. Typical gun safe with back panel removed. Lock is covered by relock plate. Lock is mounted VD.

Continued from page 126



2. Relock plate removed showing relock plunger and S&G 6120 Electronic Lock.

Some of these screws are covered with fabric or snaps, and once all the screws are removed, the back plate is quite un-wieldy. Unless you suspect a loose lock, spline key, or inner mechanism part, removal of the back door plate (unless to gain access to the lock for combination changing), should not be lightly attempted.

With the advent of the fire resistive gun safes, with a mechanical lock, there is no choice. I have not seen one of these safes that has an access hole in the back door thorough the fire/heat resistive drywall type material. The back plate and the drywall material must be removed before access to the lock is gained. The plate and material are very heavy and it is an act of "Atlas" to get the back removed, plus a balancing act to get the plate and barrier material back on again. Not an easy job, even if you know what you are doing.

That is one reason I do not lightly quote prices for working on any safe that I have not previously worked on before. "Better to be Safe" than sorry. Quote a range of prices, including standard safe combination changing, complete tear down and tune up, and basic servicing on new safe locks.

On my invoices, I have a line called "Aggr. Fact: Nominal" which stands for Aggravation Factor, Nominal. This is a charge I levy to all Mall Customers, or on other jobs where the quoted price is not enough. No one seems to argue with me on this, and I am somewhat covered in most

situations. Let us now look at a typical gun safe.

The safe used in this article is a Winchester Gun Safe with a fire/heat rating. After removing the 12 or so screws, grunting under the back plate load of the metal and drywall compound, you see the safe mechanism as shown in *Photograph 1*.

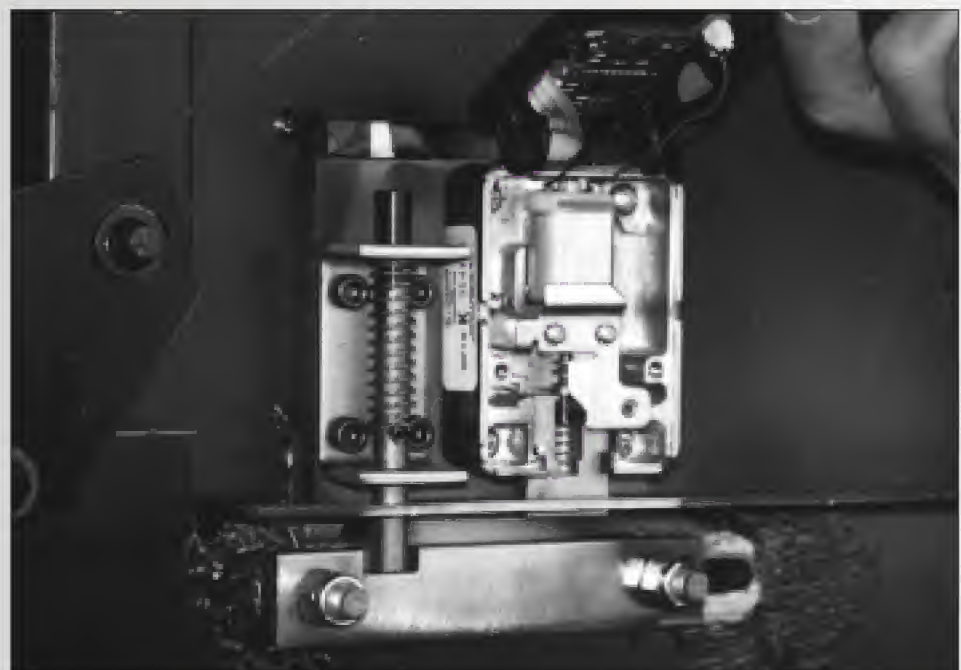
Nothing is really apparent unless you look closely at the plate covering the lock itself. There is a hole in this plate which is for the relocker roll pin which is inserted in the plunger. The screws on the back plate of this lock hold on this large relock plate.

In *Photograph 2*, can be seen the actual lock and relock plunger. This is the GPC (Generic Primary Configuration) mounting option. The lock can be mounted either Vertical Up (VU) or Vertical Down (VD). The beauty of this configuration is that there is no handle to center of dial distance measurement anymore.

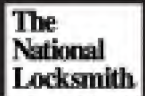
The lock can be located anywhere above or below the center bolt bar. The bolt blocks the movement of this bar by means of actually blocking a protrusion on the bar, or by blocking an attachment secured to the bar. This opens up a vast majority of options for the manufacturer of the gun and similar safes.

Some of the gun safes favor a center mounting of the combination lock or the handle mechanism. It balances the look of the safe so it does not seem out of place in an office, or a front room, or even a bedroom. These units are like fancy pieces of furniture. They are used to secure guns, and anything else the customer wants to hold. Granted, this is not the primary security purpose of these units, but with the word "safe" in the name, anything goes.

Photograph 3, shows the back cover of the S&G 6120 lock removed. This shows the motor and the bolt. The electronics are on the back cover. I had a situation where I was called on to change the combination on this series of lock. The safe had been purchased through another safe distributor and that person had put



3. Back cover of the S&G lock removed showing inner mechanism.



there own "Master Combination" on the safe. Without the customer or me knowing that combination, it was impossible to change the combination.


I wrote to Brian Costly at Sergeant and Greenleaf, and asked him if there was any way in which I could determine the Master Override Combination and change the combination myself. Simply stated, once the master combination has been changed, there is no way a person can determine what the new combination is. Anyone who is not privy to what the new override numbers are, is not able to change the combination. New lock time.

Another trick that safe manufacturer's are now using on safes equipped with the S&G 6120 series combination locks is shipping the safes with the combination bolt in the open position. I know that Gardall is doing this. It is a good idea. Here is how they do it.

On all electronic safe locks from S&G, the factory combination is 1,2,3,4,5,6 # (pound sign). Gardall changes this combination and records the new random combination and sends it with the safe. Before sending the safe out, they install a battery and use the new combination to withdraw the bolt. Then they quickly remove the battery which leaves the bolt in the "in" or open position. This keeps the safe from becoming accidentally locked during shipment.

When the retailer gets the safe, all he has to do is to install two fresh alkaline batteries, wait for about 6 minutes, and then use the factory supplied combination. The lock will sequence through the opening, and in about 8 seconds, the bolt will extend to lock the safe (assuming the handle is thrown to the locked position).

If you are not aware of this situation, you may at first think that the lock is broken, should you receive a call on a unit that will not lock. If that is the case, do not take it apart or break the seal on the lock. Install a couple batteries, dial in the combination and wait. It will work.

In conclusion, when going to work on a Gun Safe, be prepared to put in a little extra effort if you have to remove the back of the door to gain access to the safe combination change key hole. Be prepared to charge more too. OPEN & PROSPER! 

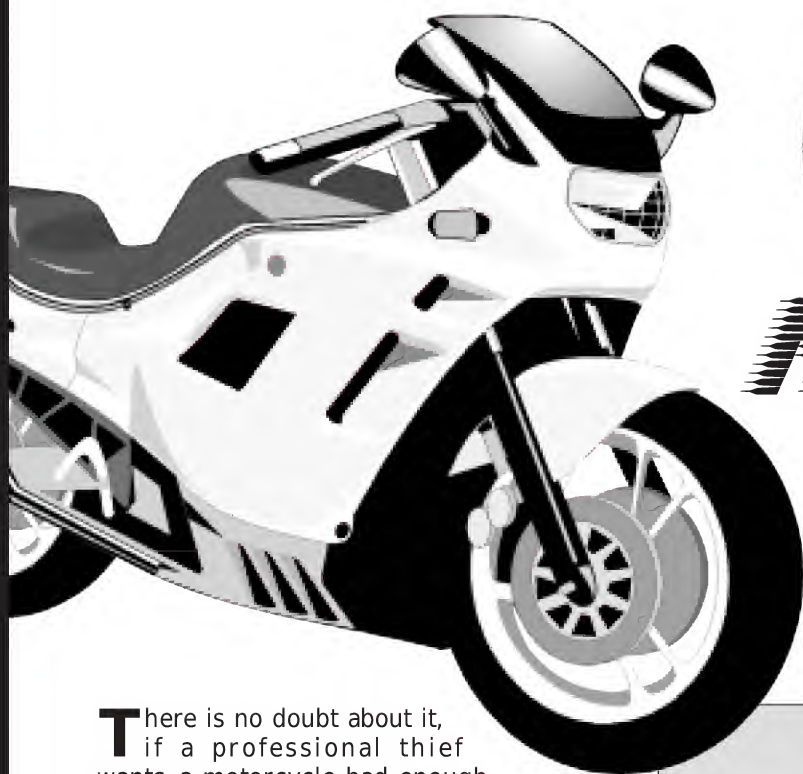


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ABUS

**MOTORCYCLE
LOCKS**

There is no doubt about it, if a professional thief wants a motorcycle bad enough, he's going to get it. The best you can hope for is to delay the thief as long as you can, and prevent the casual thief from striking.

To date there have been many locking devices available in the marketplace that provide moderate security, usually brightly colored to remind the thief and the rider that a security device is in use. These locks are not resistant to bolt cutters, picking devices, and the new "high tech" Freon® sprays (CO₂).

You know how the bolt cutters and picking tools work, now the thieves are spraying CO₂ on the lock shackle which lowers the temperature of the case hardened material. The insides of the shackle shrink away from the case hardened surface leaving a void. A quick rap with a hammer shatters the shackle and off the thug goes with the bike. There have been reports of the pin tumbler keyway being sprayed as well, making a mess of the cylinder and easy work to open the lock with a screwdriver; Oh well, that's criminal technology for ya.

ABUS Lock has faced these problems in Europe and Asia for the past 15 years. The engineers at ABUS have come up with a complete line of "high tech" motorcycle locking devices that are constructed to resist bolt cutters, Freon® sprays, and most every tool of the trade. The locks range



1. The Prestige Plus 88/50 Padlock, is a fork tab lock which is extremely difficult to cut.



2. The Granit Victory disc brake lock is compact and rugged, while the 37 Quick Brake Lock, is the top-selling motorcycle brake lock in the world.

from fork tab locks (see Photograph 1), to wheel locks and high strength chains.

Motorcycle owners have different needs to suit their riding habits, some prefer brake locks (see Photograph 2) while others may want to use armored cables or chains. The

preferred way to lock a bike is to a non-movable object is with a chain or armored cable (see Photograph 3). When riding in groups, chaining the bikes together is the best deterrent to prevent theft.

At Daytona last year, a panel truck was spotted using a moveable boom

and hook to pick up prized Harley Davidson's® right off the street. A sure way to deter this type of theft is with a cable, chain or large shackle padlock, securing the motorcycle to a fixed post, (see Photograph 4).

The latest trend in the southwest is to use two skateboards to wheel the



3. The Magnum Chain & Lock and the 950 Steel-O-Flex, are the ultimate products for motorcycle security.

unsuspecting bike up a ramp into a van, locks and all. Once again, cables, chains or large shackle padlock seem to be the best deterrent. Like the saying goes, "Where there's a will, there's a way."

When you think about it, using a cheap pin tumbler padlock doesn't make a lot of sense to protect a \$20,000 motorcycle, but the consumer doesn't know any better. ABUS has a line of products which are constructed of "core hardened" tool strength steel that has been field tested and lab tested to surpass the toughest ASTM, ANSI and Swedish SSF security standards. These line of products are now available here in the United States.

Not for the faint of heart, these are top quality products and the prices range from \$20 - \$100 retail for brake disk locks and \$100 - \$250 retail for armored cables, and chains. Some products are surprisingly strong for their light weight, another requirement of motorcycle owners. Floor and wall anchors are also available from ABUS, as more and more consumers are interested in locking their bike down for the winter in the garage.

So, even though there is no sure way to keep the bad guys away, you can offer a "high tech" product line that provides "real" maximum security. All of the ABUS motorcycle locks are easy to use, some are available keyed alike and ABUS uses no pins in their "high tech" cylinders. It doesn't matter if you're protecting a \$20,000 Harley Davidson® or a pair of Polaris® snowmobiles, ABUS has the right locking device.

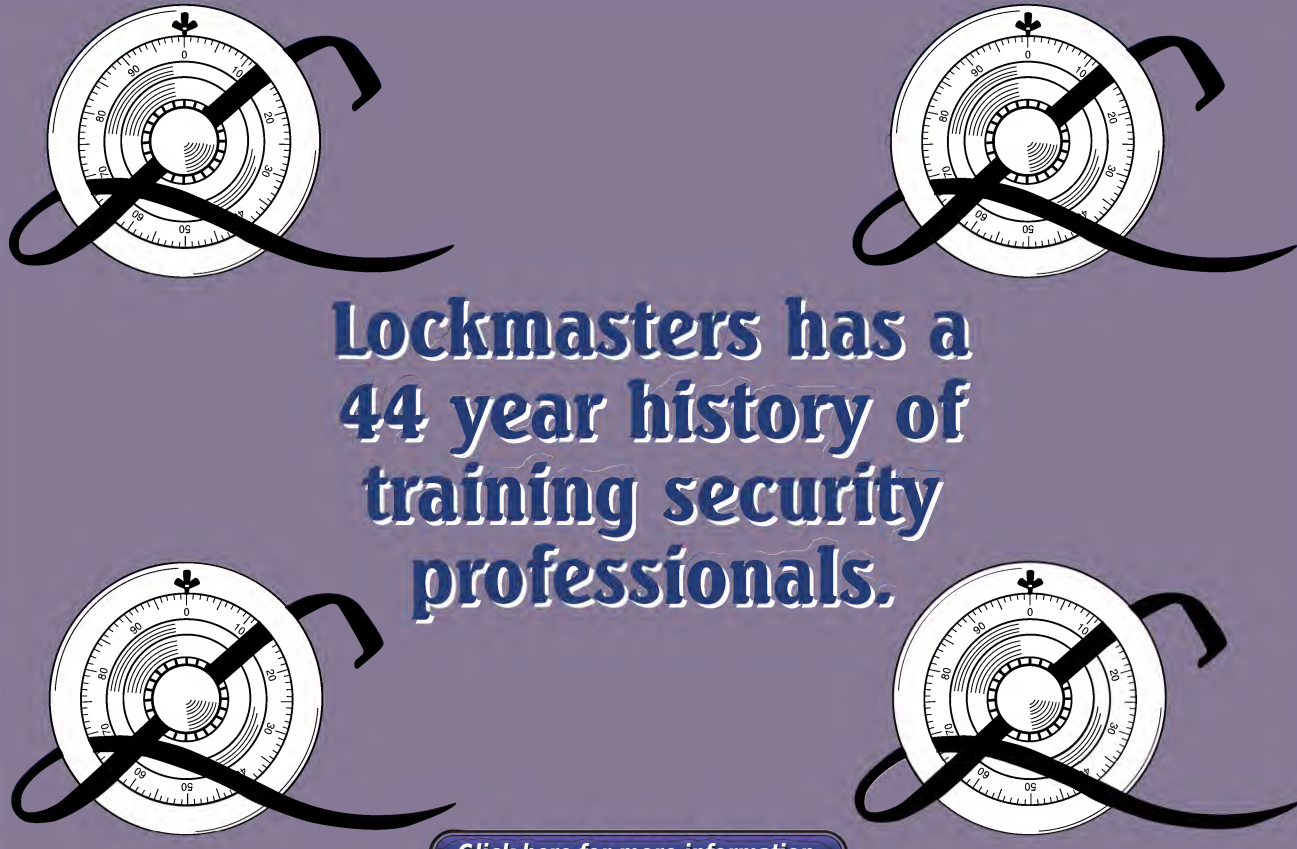
All ABUS motorcycle locks are made in Germany under the strictest quality control. For more information on ABUS Motorcycle locks call 800-



4. The Granit 54 U Lock is available in either 9" or 12" shackle lengths, and features the Abus Plus high security keyway.

225 5348 ABUS Motorcycle Lock
Division of ABUS Lock Co. 3555 Holly
Lane North Plymouth, MN. 55447.

TNL



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KEY CODES

Auth Electric Series H0001-H3000 - Part 3

HPC 1200CM

Code Card: C26

HPC Cutter: CW-1011

Framon:

Cuts Start at: .191

Spacing: 125

Block #: 1

Key Blanks:

Original - H20

Ilco - 1003M

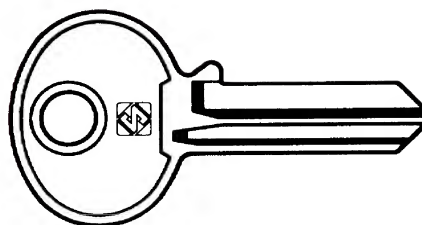
Silca - BOR1R

Curtis - CO106

Cut to Cut Spacing: 125

Number of Cuts: 5 for operating key.

Gauged: Bow to Tip



CO106
(BOR1R)

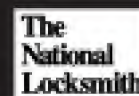
Spacings:

1.	.191
2.	.316
3.	.441
4.	.566
5.	.691
6.	.816

Depths:

0.	.290
1.	.272
2.	.254
3.	.236
4.	.218
5.	.200
6.	.182

CODE#	BITTING	2026	55261	2052	02242	2078	35645	2104	40420	2130	61014
2001	11313	2027	24110	2053	36456	2079	64534	2105	22532	2131	02202
2002	64112	2028	53663	2054	53313	2080	53401	2106	30234	2132	34050
2003	54214	2029	32056	2055	43032	2081	53533	2107	14323	2133	44262
2004	30505	2030	16501	2056	56250	2082	03650	2108	34505	2134	13445
2005	30450	2031	10503	2057	34305	2083	45254	2109	14012	2135	52541
2006	62136	2032	30161	2058	62402	2084	14216	2110	24664	2136	63410
2007	54141	2033	36616	2059	13663	2085	21052	2111	12541	2137	01632
2008	14565	2034	65032	2060	05616	2086	64334	2112	66240	2138	02624
2009	54016	2035	55353	2061	54012	2087	10416	2113	03010	2139	34654
2010	43450	2036	65016	2062	14656	2088	14321	2114	53243	2140	52050
2011	20510	2037	02310	2063	41634	2089	55621	2115	52250	2141	46440
2012	40312	2038	46642	2064	23014	2090	03412	2116	20516	2142	25634
2013	65254	2039	35223	2065	12503	2091	23034	2117	42310	2143	44336
2014	34034	2040	53645	2066	05414	2092	34521	2118	22662	2144	62424
2015	21650	2041	25252	2067	11643	2093	23254	2119	14450	2145	64202
2016	53623	2042	14301	2068	53001	2094	02466	2120	12521	2146	51403
2017	41050	2043	54612	2069	66514	2095	30301	2121	41254	2147	45234
2018	66154	2044	46424	2070	46156	2096	40150	2122	12410	2148	34523
2019	56163	2045	14236	2071	55643	2097	20534	2123	61234	2149	65616
2020	21034	2046	31665	2072	35355	2098	61250	2124	26424	2150	40510
2021	42152	2047	62132	2073	16410	2099	45056	2125	35421	2151	12434
2022	31445	2048	25434	2074	01052	2100	31043	2126	26152	2152	24240
2023	02116	2049	42204	2075	35135	2101	54303	2127	36656	2153	13131
2024	33113	2050	65410	2076	26354	2102	02332	2128	56301	2154	14505
2025	20224	2051	56125	2077	32216	2103	52416	2129	03036	2155	53221



Auth Electric Series H0001-H3000 - Part 3

2156	62116	2178	05010	2200	10563	2222	02150	2244	44204	2266	64402
2157	41410	2179	26510	2201	21656	2223	24004	2245	54103	2267	51043
2158	13645	2180	55335	2202	14143	2224	51665	2246	34656	2268	14052
2159	25050	2181	24516	2203	25450	2225	62334	2247	64132	2269	22534
2160	16656	2182	02354	2204	46224	2226	10410	2248	41610	2270	51621
2161	34501	2183	14032	2205	50363	2227	15003	2249	63252	2271	14232
2162	53665	2184	45650	2206	00352	2228	36103	2250	24204	2272	22554
2163	13405	2185	31465	2207	35401	2229	16432	2251	05050	2273	54416
2164	36323	2186	02422	2208	05012	2230	56105	2252	36454	2274	30521
2165	01434	2187	64420	2209	66510	2231	21634	2253	14103	2275	25216
2166	44266	2188	12363	2210	45256	2232	14210	2254	22550	2276	56523
2167	42330	2189	36610	2211	54052	2233	44132	2255	62112	2277	41436
2168	56614	2190	43412	2212	32545	2234	14543	2256	34216	2278	02132
2169	20242	2191	51445	2213	53311	2235	46514	2257	01636	2279	52634
2170	32434	2192	20310	2214	30501	2236	26262	2258	40532	2280	56345
2171	56432	2193	41636	2215	45216	2237	64224	2259	25616	2281	02114
2172	35465	2194	14123	2216	61654	2238	43654	2260	15005	2282	40240
2173	45450	2195	26156	2217	12303	2239	02446	2261	23614	2283	61232
2174	01656	2196	52012	2218	50121	2240	34032	2262	30541	2284	42154
2175	46150	2197	11443	2219	11042	2241	03632	2263	63036	2285	33661
2176	10323	2198	01226	2220	51443	2242	32432	2264	14410	2286	42350
2177	11515	2199	42042	2221	64646	2243	36521	2265	51663	2287	62420



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2288	30543	2340	56505
2289	43012	2341	21412
2290	55201	2342	41614
2291	03254	2343	12050
2292	33245	2344	22114
2293	36612	2345	12523
2294	14050	2346	26552
2295	32345	2347	34450
2296	50343	2348	20556
2297	24402	2349	40224
2298	54123	2350	12650
2299	11665	2351	23634
2300	52616	2352	40132
2301	23414	2353	52545
2302	41432	2354	30430
2303	20154	2355	11023
2304	44514	2356	66150
2305	12632	2357	50523
2306	53261	2358	30454
2307	01612	2359	61416
2308	61434	2360	20136
2309	46552	2361	43650
2310	50545	2362	51465
2311	35423	2363	03052
2312	56454	2364	52456
2313	40152	2365	30561
2314	25232	2366	64242
2315	25254	2367	33421
2316	54165	2368	61450
2317	61410	2369	43410
2318	32141	2370	26312
2319	26402	2371	32565
2320	40316	2372	21632
2321	16632	2373	41034
2322	53421	2374	65456
2323	26264	2375	36632
2324	12565	2376	53403
2325	01456	2377	16630
2326	24040	2378	26240
2327	11621	2379	44356
2328	53223	2380	55245
2329	22350	2381	03230
2330	01452	2382	66516
2331	53465	2383	26224
2332	01630	2384	52610
2333	52505	2385	65052
2334	23012	2386	34630
2335	24464	2387	52343
2336	14545	2388	16612
2337	64262	2389	10141
2338	54210	2390	05056
2339	24312	2391	54032



Continued from page 136

Auth Electric Series H0001-H3000 - Part 3

2392 43256	2415 52345	2438 40550	2461 21610	2484 43416	2533 34016
2393 26464	2416 01454	2439 03432	2462 54412	2485 32234	2534 53423
2394 20150	2417 26242	2440 65412	2463 03210	2486 56343	2535 63416
2395 52432	2418 23250	2441 40334	2464 61636	2487 23256	2536 56563
2396 03214	2419 25656	2442 52054	2465 34565	2488 40426	2537 24424
2397 50561	2420 52161	2443 34250	2466 54234	2489 22556	2538 63450
2398 16452	2421 12301	2444 56456	2467 61656	2490 55221	2539 44354
2399 34145	2422 65236	2445 30563	2468 25650	2491 12545	2540 42020
2400 46464	2423 21450	2446 44202	2469 62246	2492 61614	2541 34543
2401 61432	2424 55243	2447 54561	2470 01032	2493 54250	2542 52323
2402 46624	2425 52656	2448 22354	2471 26440	2494 42312	2543 24202
2403 36212	2426 21614	2449 52123	2472 10143	2495 56561	2544 61450
2404 66532	2427 51265	2450 66134	2473 23216	2496 21630	2545 55645
2405 30141	2428 35236	2451 13423	2474 52650	2497 30123	2546 16656
2406 52452	2429 54321	2452 41452	2475 03252	2498 63216	2547 41232
2407 40220	2430 36501	2453 54232	2476 41616	2499 21454	2548 40554
2408 30034	2431 26622	2454 10303	2477 55223	2500 41216	2549 33423
2409 41434	2432 34121	2455 24534	2478 34223	2501 56323	2550 42442
2410 50505	2433 00356	2456 40402	2479 65230	2502 26620	2551 34545
2411 65054	2434 12345	2457 14434	2480 53425	2503 52141	2552 46446
2412 40462	2435 25610	2458 62262	2481 21432	2504 23054	2553 34012
2413 36303	2436 25056	2459 24354	2482 34123	2505 12432	2554 54501
2414 40264	2437 50321	2460 36565	2483 44312	2506 24532	2555 12230



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2507 56123	2556 23454
2508 36450	2557 63432
2509 61456	2558 33201
2510 26420	2559 41212
2511 40424	2560 56545
2512 54430	2561 43456
2513 36345	2562 65234
2514 34163	2563 20116
2515 63054	2564 63456
2516 16210	2565 44534
2517 23412	2566 61650
2518 42134	2567 44112
2519 03256	2568 21250
2520 21434	2569 66550
2521 40242	2570 16650
2522 54254	2571 24332
2523 66334	2572 42132
2524 35443	2573 65256
2525 44020	2574 54565
2526 52434	2575 46554
2527 63012	2576 66534
2528 24556	2577 61052
2529 10321	2578 24244
2530 50541	2579 65232
2531 16454	2580 42022
2532 56234	2581 24334



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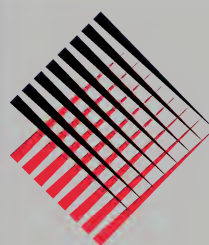
2582 34321	2630 01304	2678 03124	2726 13562	2774 21364	2822 23300
2583 43250	2631 00563	2679 13545	2727 15541	2775 31523	2823 35103
2584 21654	2632 01320	2680 03126	2728 03564	2776 21366	2824 23302
2585 40310	2633 11565	2681 13563	2729 15543	2777 31525	2825 35121
2586 03234	2634 01322	2682 01340	2730 21102	2778 21520	2826 23304
2587 31201	2635 13101	2683 13565	2731 15545	2779 31541	2827 35123
2588 14454	2636 01324	2684 03142	2732 21104	2780 31522	2828 23320
2589 53045	2637 13103	2685 15101	2733 15563	2781 31543	2829 35125
2590 63254	2638 01326	2686 03144	2734 21120	2782 21524	2830 23322
2591 42040	2639 13121	2687 15103	2735 15565	2783 31545	2831 35141
2592 65250	2640 01340	2688 03146	2736 21122	2784 21526	2832 23324
2593 13223	2641 13123	2689 15121	2737 31101	2785 31563	2833 35143
2594 22310	2642 01342	2690 03300	2738 21124	2786 21540	2834 23326
2595 65432	2643 13125	2691 15123	2739 31103	2787 31565	2835 35145
2596 24554	2644 01362	2692 03302	2740 21126	2788 21542	2836 23340
2597 10232	2645 13141	2693 15125	2741 31121	2789 33101	2837 35301
2598 16616	2646 01364	2694 03304	2742 21140	2790 21544	2838 23342
2599 63232	2647 13143	2695 15141	2743 31123	2791 33103	2839 35303
2600 44240	2648 01520	2696 03320	2744 21142	2792 21546	2840 23344
2601 11301	2649 13145	2697 15143	2745 31125	2793 33121	2841 35321
2602 55325	2650 01522	2698 03322	2746 21144	2794 21562	2842 23362
2603 11303	2651 13301	2699 15145	2747 31141	2795 33123	2843 35323
2604 55341	2652 01524	2700 03324	2748 21146	2796 21564	2844 23364
2605 11321	2653 13303	2701 15301	2749 31143	2797 33125	2845 35325
2606 55343	2654 01526	2702 03326	2750 21300	2798 21566	2846 23520
2607 11323	2655 13321	2703 15303	2751 31145	2799 33141	2847 35341
2608 55345	2656 01540	2704 03340	2752 21302	2800 23100	2848 23522
2609 11325	2657 13323	2705 15321	2753 31301	2801 33143	2849 35343
2610 55363	2658 01542	2706 03342	2754 21304	2802 23102	2850 23524
2611 11341	2659 13325	2707 15323	2755 31303	2803 33145	2851 35345
2612 55365	2660 01544	2708 03362	2756 21320	2804 23104	2852 23526
2613 11343	2661 13341	2709 15325	2757 31321	2805 33521	2853 35363
2614 01100	2662 01546	2710 03364	2758 21322	2806 23120	2854 23540
2615 11363	2663 13343	2711 15341	2759 31323	2807 33523	2855 35365
2616 01102	2664 01562	2712 03520	2760 21324	2808 23122	2856 23542
2617 11365	2665 13363	2713 15343	2761 31325	2809 33525	2857 35521
2618 01104	2666 01564	2714 03522	2762 21326	2810 23124	2858 23544
2619 11521	2667 13365	2715 15345	2763 31341	2811 33541	2859 35523
2620 01120	2668 01300	2716 03524	2764 21340	2812 23126	2860 23546
2621 11523	2669 13521	2717 15363	2765 31343	2813 33543	2861 35525
2622 01140	2670 03102	2718 03526	2766 21342	2814 23140	2862 23562
2623 11525	2671 13523	2719 15365	2767 31345	2815 33545	2863 35541
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2625 11541	2673 13525	2721 15521	2769 31363	2817 33563	2865 35543
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2627 11543	2675 13541	2723 15523	2771 31365	2819 33565	2867 35545
2628 01302	2676 01322	2724 03544	2772 21362	2820 23146	2868 25102
2629 11545	2677 13543	2725 15525	2773 31521	2821 35101	2869 35563



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2870	25104	2918	25522	2966	41324	2975	53565	2984	41500	2993	55301
2871	35565	2919	51545	2967	53541	2976	41346	2985	55125	2994	41522
2872	25120	2920	25524	2968	41326	2977	55101	2986	41502	2995	55303
2873	51101	2921	51563	2969	53543	2978	41362	2987	55141	2996	41524
2874	25122	2922	25526	2970	41340	2979	55103	2988	41504	2997	55321
2875	51103	2923	51565	2971	53545	2980	41364	2989	55143	2998	41526
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2878	25126	2926	25542	2974	41344	2983	55123	2992	41520		
2879	51123	2927	53103								
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2893	51321	2941	53301								
2894	25320	2942	41122								
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2896	25322	2944	41124								
2897	51325	2945	53321								
2898	25324	2946	41126								
2899	51341	2947	53323								
2900	25326	2948	41140								
2901	51343	2949	53325								
2902	25340	2950	41142								
2903	51345	2951	53341								
2904	25342	2952	41144								
2905	51363	2953	53343								
2906	25344	2954	41146								
2907	51365	2955	53345								
2908	25346	2956	41300								
2909	51521	2957	53363								
2910	25362	2958	41302								
2911	51523	2959	53365								
2912	25364	2960	41304								
2913	51525	2961	53521								
2914	25366	2962	41320								
2915	51541	2963	53523								
2916	25520	2964	41322								
2917	51543	2965	53525								

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Reed Report

Q. I have had much trouble finding blanks for the following cars. Can you help?

Alfa Romeo
Aston Martin
Ford (Tibbe)
Jaguar (Tibbe)
Saab

A. I understand why you have had trouble. Have you really had all of these cars? Oh well, here is what I can tell you.

Alfa Romeo - ILCO #S101AAP, CURTIS #GT2AP
Aston Martin - Borkey #1334
Ford (Tibbe) - Silca #FO21P
Jaguar (Tibbe) - Silca #TBEIP
Saab - ILCO #YM 30P

Let me throw in one more for you:

Lotus - Borkey #1352 1/2, along with those other cars, I'm sure you will see one of these soon!

Q. What can you tell me about the Ford Electric Code Combination Door Locks?

A. Master code can be found on sticker on trunk lid hinge or nearby electrical box.

Q. What about the Nissan Electric Code Combination Door Locks?

A. Master Code can be found in trunk on electrical box under rear shelf.

Q. What do the Vehicle Identification Numbers (VIN) mean?

A. 1 = country of origin
2 = make
3 - 7 = MFG Defined
9 = check digit
10 = year
11 = assembly plant
12 - 17 = serial number

The following is a handy keyblank substitution list:

For:	Use:	For:	Use:	For:	Use:
B84	P1099	F74T	X109	HD84	X181
FT6R	X1	H67	H60	NE9	X109
F44	X109	HD83	X181	P1100	P1108

Scatter Shooting while wondering whatever happened to ...Locksmithing Institute

For:	Use:	For:	Use:	For:	Use:
P1101	P1099	X191	X215	320774	75102(14)
P1102	P1106	X192	X174	320886	321074(60)
P1103	P1106	X193	X214	321148	321074(60)
SP9	X109	X194	X215	321212	321202(48)
T61C	X137	X195	X214	321219	321207(49)
T80R	X137	X197	X123	321456	321074(60)
TR28	X159	X198	X180	321487	321815
X10	X7	X199	X131	321490	321074(60)
X19	X180	X201	X222	321622	320653
X20	X86	X202	X178	321648	321645
X29	X239	X203	X139	321951	320405
X37	X159	X204	X214	322311	75102(14)
X54	X121	X205	X215	322337	321074(60)
X85	X92	X207	X131	322359	322789(83)
X88	X9	X208	X181	593578	320514(61)
X128	X181	X209	X190	593746	321750
X145	X159	X210	X123	594145	322000(73)
X146	X137	X211	X174	595293	322000(73)
X160	X196	X212	X151	595312	322050
X165	X181	X216	X236	595917	595895
X182	X214	X221	X222	595936	597500
X183	X181	X225	X217	596757	321645
X184	X176	X233	X240	596758	321645
X185	X176	X244	X222	597037	322789(83)
X186	X180	320509	321074(60)	597638	322789(83)
X188	X222	320510	321074(60)		
X189	X190	320734	75102(14)		

IRL



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Bill Reed

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THRU THE KEYHOLE

A Peek at Movers & Shakers in the Industry

ATTENTION MANUFACTURERS AND DISTRIBUTORS:

Would you like your company and products to be profiled in *Thru The Keyhole*? Please call Editor, Greg Mango, at (630) 837-2044.

The New Olympus DCN Cam Lock

The New Olympus DCN Cam Lock is yet another addition to Olympus Lock quality, innovative and patented rekeyable line of cabinet locks. The DCN Cam Lock has combined quality, dependability and style. The ease of rekeyability is due to the patented retaining clip and removable pin cover. To rekey the DCN, just simply remove the retaining clip and remove the plug with a following tool; truly the easiest cam lock to rekey on the market!

The Olympus DCN Cam Lock is supplied with reversible straight and offset cams (only 2 cams required compared to the standard 6 cams required by other manufacturers) and a new anti-rotation plate. A removable shelf allows the cams to be field reversible, meeting the requirements of all 12 locking positions whether it be right/ left hand, inverted/ outbent, or horizontal/ vertical.

The anti-rotation plate, after mounted, prevents the Cam Lock from

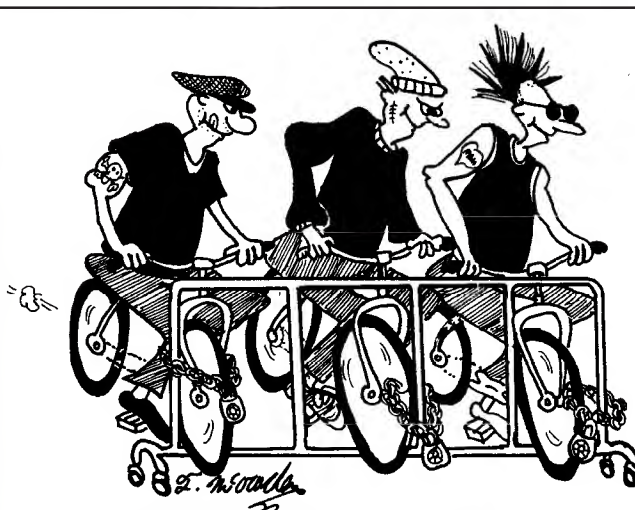
being turned with a screw driver. It also has a third hole to capture and secure the fixing nut to prevent it from backing off. The new final assembly serrated screw to the rear of the DCN provides an improved fastening method that prevents the lock assembly from loosening.

The key is removable in locked or unlocked position and the DCN is available key retaining in the drawer function upon request.

The one inch face is designed to cover blemishes that may occur in the laminate. An additional trim ring is not required. The Olympus Logo on the face of the lock allows easy identification of a Quality Olympus

Rekeyable Product.

The Olympus DCN Cam Lock is available keyed alike or keyed different 4 pin and master keyed in 5 pin. The DCN is available in US26D and US3 finishes and it features a National D4291 keyway with four cylinder lengths -1", 1-1/8", 1-3/8" and 1-3/4". **NL**



Gang bike thievery method #125



TEST DRIVE!

DeWalt *DW997K* Cordless Drill



PRODUCT:

A new line of cordless drills was recently introduced by DeWalt that is sure to attract some attention. They are some of the most powerful cordless drills available, which is a far cry from not too very long ago.

The convenience of cordless power tools is obvious, but for that convenience, sacrifices were made, namely, speed, power and torque. DeWalt has drastically changed all that with the introduction of a new line of power tools. Much of the changes are due to the rechargeable battery design. The batteries are capable of producing much more voltage, resulting in greater performance.

PRODUCT DESCRIPTION:

The DW997K is a heavy duty 18.0 volt 1/2" adjustable clutch drill/driver/hammerdrill. That's right, its a hammerdrill as well. Whether this feature is necessary in a cordless drill is debatable, but it does incorporate hammer action capabilities.

FEATURES:

The DW997K features a variable speed reversing switch; an adjustable clutch torque control with hammer action; a high performance fan cooled motor; replaceable brushes; anti-slip soft comfort grip; keyless chuck and an electric brake. The no load speed is 0 - 1850 rpm and a hammer rating of 0 - 20350 bpm. The maximum torque is 230 ft. lbs. The 18.0 Volt rechargeable battery pack is a high capacity battery designed for 1,200 recharging cycles with no memory loss.

OPERATION:

The DW997K is a very smooth operating drill. When you pull the trigger, there is a real sense of power and strength. The 18.0 Volt battery coupled with a stout motor will out perform just about any other product on the market. The hammer action is good, but if I needed the performance of a hammer drill, I believe I would opt for a standard 110 Volt plug drill. Its a nice feature on this cordless which does work, but I believe its overkill.

The drilling performance was very impressive. The torque produced by this cordless drill was astounding. DeWalt claims that this drill will drive up to 300 3" deck screws, over 100 1/4" x 3" lag bolts or drill up to 15 self-feeding bit holes on a single charge and I have no reason to doubt these claims.

COMMENTS:

The only negative comment I can make about the DW997K is, it is very heavy. It feels like a brick in your hand. It has a very solid feel, but its definitely not for those with

weak hands or arms. Its over 5.5 pounds, but after using it a while, it feels like 25 pounds. Much of the extreme weight is due to the very large battery. After using this drill for a while, your arm gets very tired rather quickly. If you need the superior power this drill delivers however, the added weight is necessary for the performance.

CONCLUSION:

Retail price for the DW997K is \$265.00. This is a fairly hefty price to pay, but this is an awesome cordless drill! If your in the market for a cordless drill with some real guts, this is it. Except for the extreme weight, its hard to find fault in the features or performance on the DeWalt DW997K.

For more information call: 1-800-433-9258. **TNL**

IN SUMMARY:

DESCRIPTION:

DeWalt DW997K cordless drill with 18.0 power pack.

COMMENTS:

One of the most powerful cordless drills you will ever use.

TEST DRIVE RESULTS:

The drill is on the heavy side and the price tag is hefty, but if you want real power in a cordless drill, this is it.